18 Pe

THE NAUTICAL ALMANAC AND ASTRONOMICAL EPHEMERIS FOR THE *YEAR* 1802.

PUBLISHED BY ORDER OF THE

COMMISSIONERS OF LONGITUDE.

LONDON:

PRINTED BY C. BUCKTON, GREAT PULTENEY STREET;

AND

SOLD BY P. ELMSLY, STRAND, BOOKSELLER TO THE SAID *COMMISSIONERS.*

M DCC XCVI.

Price *Three Shillings and Sixpence.*]

23

5 Geo: 3. C. 20.

Jos: Banks

EXTRACT from the ACT of PARLIAMENT concerning the Longitude, made in the Fifth Year of the Reign of His preſent Majeſty.

WHEREAS the Publication of Nautical Almanacs conſtructed by proper Perſons, under the Direction of the ſaid Commiſſioners, would greatly contribute to make the ſaid Lunar Tables more generally uſeful; Be it further Enacted, by the Authority aforeſaid, That it ſhall and may be lawful to and for the ſaid Commiſſioners to cauſe ſuch Nautical Almanacs, or other uſeful Tables, to be conſtructed, and to print, publiſh, and vend, or cauſe to be printed, publiſhed, and vended, any Nautical Almanac or Almanacs, or other uſeful Table or Tables, which they, or the major Part of them, ſhall, from time to time, judge neceſſary and uſeful, in order to facilitate the Method of diſcovering the Longitude at Sea; any Law, Statute, excluſive Privilege, private Charter, or other Cuſtom, to the contrary thereof notwithſtanding.

And be it Enacted, by the Authority aforeſaid, That no Perſon or Perſons ſhall print, publiſh, or vend, or cauſe to be printed, publiſhed, or vended, any Nautical Almanac or Almanacs, or other Table, or Tables conſtructed under the Direction of the ſaid Commiſſioners, without being firſt licenſed by the ſaid Commiſſioners, or the major Part of them: And if any Perſon or Perſons not ſo licenſed, or not being authoriſed by the Perſon or Perſons ſo licenſed by the ſaid Commiſſioners, ſhall print, publiſh, or vend, or cauſe to be printed, publiſhed, or vended, any ſuch Nautical Almanac or Almanacs, or other Table or Tables, every ſuch Perſon or Perſons ſhall, for every Copy of ſuch Nautical Almanac or Table ſo printed, publiſhed, or vended, forfeit and pay the Sum of Twenty Pounds; to be recovered by Action of Debt, Bill, Plaint, or Information, in any of His Majeſty's Courts of Record at *Weſtminſter*; and that One Moiety of ſuch Penalty and Forfeiture ſhall be to His Majeſty, his Heirs and Succeſſors, and the other Moiety to him or them that ſhall proſecute, inform, or ſue for the ſame.

14. Geo. 3.

An Act was passed in the 14th year of this present Reign entitled

EXTRACT of an Act for the Repeal of all former Acts concerning the Longitude at Sea, except so much thereof as relates to the Appointment and Authority of the Commissioners thereby constituted, and also such Clauses as relate to the constructing, printing, publishing, vending, and licensing of Nautical Almanacs and other useful Tables; and for the more effectual Encouragement and Reward of such Person and Persons as shall discover a Method for finding the same, or shall make useful Discoveries in Navigation; and for the better making Experiments relating thereto: Made in the Fourteenth Year of the Reign of His present Majesty.

An Act relating inter alia to the aforesaid Clauses

BE it Enacted by the KING's Most Excellent Majesty, by and with the Advice and Consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the Authority of the same, That each and every of the said recited Acts (save and except such Clause and Clauses in each or any of them as relate to the Appointment or Authority of all or any of the Commissioners thereby respectively constituted, and also such Clause and Clauses as relate to the constructing, printing, publishing, vending, and licensing of Nautical Almanacs, and other useful Tables) shall, from and after the Twenty-fourth Day of *June* One thousand Seven hundred and Seventy-four, be, and are hereby repealed.

And, for a due and sufficient Encouragement to any Person or Persons who shall discover any Method or Methods for finding the said Longitude, Be it Enacted by the Authority aforesaid, That the First Author or Authors, Discoverer or Discoverers, of each and every such Method or Methods, his or their Executors, Administrators, or Assigns, shall be intitled to and have the Rewards or Sums of Money herein-after mentioned; that is to say, In case the Method proposed shall be, by means of a Time-keeper, the Principles whereof have not hitherto been made public, to the Reward or Sum of Five Thousand Pounds, if such Method determines the said Longitude to One Degree of a great Circle, or Sixty geographical Miles; to the Reward or Sum of Seven thousand Five hundred Pounds, if it determines the same to Two Thirds of that Distance; and to the Reward or Sum of Ten thousand Pounds, if it determines the same to One Half of the said Distance: Which respective Rewards shall be due and paid when such Method shall have been sufficiently tried by the following Experiments and

A

EXTRACT, &c.

Voyages to be made and performed by ſuch Perſons, and under ſuch Reſtrictions, as the ſaid Commiſſioners for the Diſcovery of Longitude at Sea reſpectively conſtituted by the above-recited Acts, or the major Part of them, ſhall think fit to appoint and direct; (that is to ſay), When and ſo ſoon as Two or more Time-keepers of the ſame Conſtruction ſhall have been tried at the ſame Time, for the Space of Twelve Months, at the Royal Obſervatory at *Greenwich*, then in Two Voyages round the Iſland of *Great Britain*, in contrary Directions, and in ſuch other Voyages to different Climates as the ſaid Commiſſioners ſhall think fit to direct and appoint; and after their Return from ſuch Voyages, or any of them, for ſuch longer Time, at the ſaid Obſervatory, not exceeding Twelve Months, as the ſaid Commiſſioners ſhall judge neceſſary; and alſo when and ſo ſoon as the ſaid Commiſſioners, or Two Thirds of them at the leaſt, ſhall, after ſuch Experiments and Voyages have been made and performed as aforeſaid, have declared and determined that ſuch Method is generally practicable and uſeful, and ſufficiently exact to determine the Longitude at Sea within the Degrees or Limits aforeſaid, in all Voyages for the Space of Six Months, (Impediments from cloudy and hazy Weather excepted); and alſo when and ſo ſoon as the Principles and Practice of ſuch Method are fully diſcovered and explained to the Satisfaction of the ſaid Commiſſioners, or Two Thirds of them at leaſt; and ſuch Author or Authors, Diſcoverer or Diſcoverers, ſhall have delivered up and aſſigned over to the ſaid Commiſſioners, for the Uſe of the Public, the abſolute Property of ſuch Time-keepers as ſhall have been tried by ſuch Experiments and Voyages as aforeſaid, together with all Plates, Deſcriptions, Theories, and Explanations belonging or relating to the ſame, and which ſhall contain the Whole of ſuch Diſcovery of the Longitude; and in caſe the Method propoſed ſhall be by means of improved Solar and Lunar Tables, then and in ſuch Caſe the Author or Authors of ſuch improved Solar or Lunar Tables, their Executors, Adminiſtrators, or Aſſigns, ſhall be intitled to and have the Reward or Sum of Five Thouſand Pounds, if ſuch Solar and Lunar Tables ſhall prove ſufficiently exact to ſhew the Diſtance of the Moon from the Sun and Stars in the Heavens within Fifteen Seconds of a Degree, anſwering to about Seven Minutes of Longitude, after making an allowance of Half a Degree for the Errors of Obſervation; and when it ſhall appear to the Satisfaction of the ſaid Commiſſioners, or Two Thirds of them at leaſt, that ſuch Tables are conſtructed intirely upon the Principles of Gravitation laid down by Sir *Iſaac Newton* (except with reſpect to thoſe Elements which muſt neceſſarily be taken from aſtronomical Obſervations), and alſo when the Truth of ſuch Tables ſhall have been further confirmed and proved by Compariſon with a Series of aſtronomical Obſervations made during a Period of Eighteen Years and a Half, which is deemed the Period of the Irregularities of the Lunar Motions; which Reward ſhall be due and paid, when the ſaid Commiſſioners, or Two Thirds of them at leaſt, ſhall have declared

and determined, that ſuch Tables are ſufficiently exact to ſhew the Diſtance of the Moon from the Sun and Stars in the Heavens, within the limits above mentioned; and alſo when the Author or Authors of ſuch improved Solar and Lunar Tables, his or their Executors, Adminiſtrators, or Aſſigns, ſhall have delivered up and aſſigned over to the ſaid Commiſſioners, for the Uſe of the Public, the abſolute Right and Property to and in the ſame, together with the Theory relating thereunto; and in caſe any other Method ſhall be propoſed for finding the Longitude at Sea beſides theſe before-mentioned, that then and in ſuch Caſe the Firſt Author or Authors, Diſcoverer or Diſcoverers, of any ſuch Method, his or their Executors, Adminiſtrators, or Aſſigns, ſhall be intitled to and have the Reward or Sum of Five Thouſand Pounds, if it ſhall determine the ſaid Longitude within One Degree of a great Circle or Sixty geographical miles; to the Reward or Sum of Seven thouſand Five hundred Pounds, if it ſhall determine the ſame to Two Thirds of that Diſtance; and to the Reward or Sum of Ten thouſand Pounds, if it ſhall determine the ſame to One Half of the ſame Diſtance; which reſpective Rewards ſhall be due and paid, ſo ſoon as the ſaid Commiſſioners, or Two Thirds of them at leaſt, ſhall, after proper Trial have been made by their Appointment and Direction, have determined that ſuch Method ſhall be generally practicable and uſeful for finding the Longitude at Sea within the reſpective limits above-mentioned.

And be it further Enacted, by the Authority aforeſaid, That when and ſo ſoon as any ſuch Method or Methods, for the Diſcovery of the ſaid Longitude, ſhall be tried, as before-mentioned, and found practicable and uſeful at Sea, and ſufficiently exact to determine the Longitude within any of the Degrees or Limits aforeſaid, the ſaid Commiſſioners, or Two Thirds of them, ſhall certify the ſame, under their Hands and Seals, to the Commiſſioners of the Navy for the Time being, together with the Name or Names of the Perſon or Perſons who ſhall be the Author or Authors of ſuch Method or Methods; and upon the Receipt of ſuch Certificate, the ſaid Commiſſioners of the Navy are hereby authoriſed and required to make out a Bill or Bills upon the Treaſurer of the Navy for the reſpective Sum or Sums of Money to which the Author or Authors of ſuch Propoſal, his or their Executors, Adminiſtrators, or Aſſigns, ſhall be intitled by virtue of this Act; which Sum or Sums the ſaid Treaſurer is hereby required to pay to the ſaid Author or Authors, their Executors, Adminiſtrators, or Aſſigns accordingly, out of any Money that may be in his Hands unapplied to the Uſe of the Navy, according to the true Intent and Meaning of this Act.

And be it further Enacted, by the Authority aforeſaid, That the ſaid Commiſſioners for the Diſcovery of Longitude at Sea, or any Five or more of them, ſhall have full Power and Authority to hear and receive any Propoſal or Propoſals that ſhall be made to them,

for diſcovering the ſaid Longitude, or for making any other uſeful Improvement in Navigation; and in caſe the ſaid Commiſſioners, or any Five or more of them, ſhall be ſo far ſatisfied of the Probability of any ſuch Diſcovery or Improvement as to think it proper to cauſe Experiments to be made thereof, they ſhall certify the ſame, together with the Names of the Author or Authors of ſuch Propoſal or Propoſals, under their Hands and Seals, to the Commiſſioners of the Navy, who are hereby authoriſed and required to make out a Bill or Bills upon the Treaſurer of the Navy for any Sum or Sums of Money as the ſaid Commiſſioners for the Diſcovery of Longitude at Sea, or any Five or more of them, ſhall think neceſſary for making ſuch Experiments; which Sum or Sums the Treaſurer of the Navy is hereby required to pay immediately to ſuch Perſon or Perſons as ſhall be appointed by the ſaid Commiſſioners to make thoſe Experiments out of any Money which ſhall be in his the ſaid Treaſurer's Hands unapplied as aforeſaid.

And be it further Enacted, by the Authority aforeſaid, That if any Perſon or Perſons ſhall make any Diſcovery for finding the Longitude at Sea, which, though not of ſo great Uſe as to be intitled to any of the great Rewards above ſpecified, ſhall nevertheleſs be adjudged by the ſaid Commiſſioners for the Diſcovery of Longitude at Sea, or the major Part of them, to be of conſiderable Uſe to the Public, or ſhall make any other Diſcovery or Diſcoveries, Improvement or Improvements, uſeful to Navigation; then, and in ſuch Caſe, ſuch Perſon or Perſons, his or their Executors, Adminiſtrators, or Aſſigns, ſhall, from time to time, have and receive ſuch leſs Reward or Sum or Sums of Money as the ſaid Commiſſioners, or the major Part of them, ſhall think reaſonable; and certify accordingly, under their Hands and Seals, to the Commiſſioners of the Navy, who are hereby authoriſed and required to make out a Bill or Bills upon the Treaſurer of the Navy for any ſuch Sum or Sums of Money, which the ſaid Treaſurer is hereby authoriſed and required to pay immediately to ſuch Perſon or Perſons, his or their Executors, Adminiſtrators, or Aſſigns, out of any Money that ſhall be in his the ſaid Treaſurer's Hands unapplied as aforeſaid.

Provided alſo, and it is hereby further Enacted, That in caſe any Perſon or Perſons who ſhall and may have received any Sum or Sums of Money, by virtue of this Act, as a Reward for any Method of diſcovering the Longitude at Sea, ſhall afterwards become intitled to any of the greater Rewards appointed by this Act, for or on account of the ſame Method; that then, and in ſuch Caſe, ſuch Sum or Sums of Money as they ſhall or may have received as aforeſaid ſhall be conſidered as Part of ſuch greater Reward, and deducted therefrom accordingly; and that no Perſon ſhall receive more in the Whole for any One Method for diſcovering the Longitude at Sea than the greateſt Reward appointed for ſuch Method by the Act.

By the COMMISSIONERS appointed by Acts of Parliament for the Diſcovery of the Longitude at Sea; and for examining, trying, and judging of all Propoſals, Experiments, and Improvements relating to the ſame.

WHEREAS we think fit to employ you to print the Nautical Almanacs and Aſtronomical Ephemerides for the Years 1801, 1802, 1803, 1804, and 1805; We do, in purſuance of the power veſted in us by Acts of Parliament, hereby licenſe, authorize and impower you to print the Nautical Almanacs and Aſtronomical Ephemerides for thoſe Years accordingly, together with ſuch other uſeful Tables for facilitating the method of diſcovering the Longitude at Sea as have been conſtructed under our direction, and will be delivered to you by the Rev. Dr. NEVIL MASKELYNE, His Majeſty's Aſtronomer Royal, at *Greenwich*; and for ſo doing this ſhall be your ſufficient Warrant. Given under our Hands and Seals the 23d Day of *July*, 1794.

CHATHAM (L.S.)
H. DUNDAS (L.S.)
SHULDHAM (L.S.)
H. PALLISER (L.S.)
M. BARTON (L.S.)
P. PARKER (L.S.)
S. BARRINGTON (L.S.)
R. RODDAM (L.S.)
JOS. BANKS (L.S.)
N. MASKELYNE (L.S.)
THO. HORNSBY (L.S.)
E. WARING (L.S.)
A. SHEPHERD (L.S.)
J. MARRIOTT (L.S.)
G. ROSE (L.S.)
C. LONG (L.S.)
P. STEPHENS (L.S.)
J. IBBETSON (L.S.)
A. HAMOND (L.S.)
JOHN SMITH (L.S.)

To Mr. CHRISTOPHER BUCKTON,
Printer,
Great Pulteney-Street,
Golden-Square.

By Command of the Commiſſioners.

H. PARKER, Secretary.

By

By the COMMISSIONERS appointed by Acts of Parliament for the Diſcovery of the Longitude at Sea; and for examining, trying, and judging of all Propoſals, Experiments, and Improvements relating to the ſame.

WHEREAS we think fit to employ you to publiſh and vend and to cauſe to be publiſhed and vended; all ſuch Nautical Almanacs and Aſtronomical Ephemerides, and ſuch other uſeful Tables, conſtructed under our Direction, as have hitherto been printed and ſhall hereafter be printed for the ſeveral Years next enſuing, down to the Year 1805 incluſive. We do therefore, in purſuance of the power veſted in us by Act of Parliament, hereby licenſe, authoriſe, and impower you to publiſh and vend, and to cauſe to be publiſhed and vended, ſuch Nautical Almanacs, and Aſtronomical Ephemerides, as well as ſuch other uſeful Tables, conſtructed under our Direction, as have hitherto been printed, or ſhall hereafter be printed for the ſeveral Years next enſuing, down to the Year 1805 incluſive. For which this ſhall be your Warrant. Given under our hands and Seals the 23d Day of *July*, 1794.

CHATHAM (L.S.)
H. DUNDAS (L.S.)
SHULDHAM (L.S.)
H. PALLISER (L.S.)
M. BARTON (L.S.)
P. PARKER (L.S.)
S. BARRINGTON (L.S.)
R. RODDAM (L.S.)
JOS. BANKS (L.S.)
N. MASKELYNE (L.S.)
THO. HORNSBY (L.S.)
E. WARING (L.S.)
A. SHEPHERD (L.S.)
J. MARRIOTT (L.S.)
G. ROSE (L.S.)
C. LONG (L.S.)
P. STEPHENS (L.S.)
J. IBBETSON (L.S.)
A. HAMOND (L.S.)
JOHN SMITH (L.S.)

To Mr. PETER ELMSLY,
Bookſeller,
In the STRAND.

By Command of the Commiſſioners.

H. PARKER, Secretary.

PREFACE.

THE Commiſſioners of Longitude, in Purſuance of the Powers veſted in them by Act of Parliament, preſent the Public with the NAUTICAL ALMANAC and ASTRONOMICAL EPHEMERIS for the Year 1802, being the Thirty-ninth Impreſſion, to be continued annually; a Work which muſt greatly contribute to the Improvement of Aſtronomy, Geography, and Navigation. This EPHEMERIS contains every Thing eſſential to general Uſe that is to be found in any Ephemeris hitherto publiſhed, with many other uſeful and intereſting Particulars never yet offered to the Public in any Work of this Kind. The Tables of the Moon had been brought by the late Profeſſor MAYER, of *Gottingen*, to a ſufficient Exactneſs to determine the Longitude at Sea, within a Degree, as appeared by the Trials of ſeveral Perſons who made Uſe of them. The Difficulty and Length of the neceſſary Calculations ſeemed the only Obſtacles to hinder them from becoming of general Uſe: To remove which this EPHEMERIS was made; the Mariner being hereby relieved from the Neceſſity of calculating the Moon's Place from the Tables, and afterwards computing the Diſtance to Seconds by Logarithms, which are the principal and only very delicate Part of the Calculation; ſo that the finding the Longitude by the Help of the EPHEMERIS is now in a Manner reduced to the Computation of the Time, an Operation equal to that of an Azimuth, and the Correction of the Diſtance on Account of Refraction and Parallax, which is alſo rendered very eaſy by either of the Two Methods invented by Mr. LYONS and Mr. DUNTHORNE, and publiſhed in the Firſt Edition of the Tables requiſite to be uſed with the EPHEMERIS, and ſince, with Improvements, in the Second Edition of the ſame Tables; or by either of the Two Methods annexed to the EPHEMERIS of 1772, being both Improvements of the Method which I formerly publiſhed in the BRITISH MARINER's GUIDE and PHILOSOPHICAL TRANSACTIONS, the Firſt by myſelf, and the Second by Mr. GEORGE WITCHELL, which are now alſo annexed to the Second Edition of the REQUISITE TABLES; but ſtill more ſo by the GENERAL TABLES for correcting the apparent Diſtance of the Moon and a Star or the Sun from the Effects of Refraction and Parallax, computed at great Expence by Order of the Commiſſioners of Longitude, and publiſhed under the Care of Dr. SHEPHERD, Plumian Profeſſor of Aſtronomy and Experimental Philoſophy at CAMBRIDGE, in 1772.

MAYER's laſt Manuſcript Tables of the Sun and Moon, and his curious and elaborate Theory of the Moon, were received by the

Board of Longitude, after his deceaſe, for which his Widow received a Reward of Three Thouſand Pounds, by Act of Parliament, and the celebrated Mr. LEONARD EULER the Sum of Three Hundred Pounds for having furniſhed the Theorems made Uſe of by Mr. MAYER in his Theory. Both the Tables and Theory were printed under my Inſpection, and publiſhed in 1770.

The Sun's Longitude, and every Thing relating thereto, has been always inſerted in the NAUTICAL ALMANAC, as computed from theſe Tables, from its firſt Beginning in 1767 to the preſent Time. The Moon's Place in the Heavens was inſerted as calculated directly from MAYER's TABLES, in the NAUTICAL ALMANAC, from 1767 to 1776 incluſive, or the firſt ten Years. But from the NAUTICAL ALMANAC of 1777 to that of 1788, both incluſive, or the next twelve Years, the Moon's Place was inſerted, as calculated from new Tables, improved from MAYER's Tables, compoſed by Mr. CHARLES MASON, under my Direction, from Calculations made by Order of the Board of Longitude upon the Series of lunar Obſervations made by the late Dr. BRADLEY, and publiſhed in the NAUTICAL ALMANAC of 1774; in which new Tables the Epoch of the Moon's mean Longitude is 1″ leſs, that of the Apogee is 56″ leſs, and that of the aſcending Node 45″ more than in MAYER's printed Tables, and the Equations are calculated to Tenths of a Second; and moreover one new Equation is introduced, whoſe Argument is the mean Diſtance of the Moon from the Sun's Apogee, and Maximum is 16″, 4. Theſe Tables compared with the above-mentioned Series of Obſervations, a proper Allowance being made for the unavoidable Error of Obſervation, ſeemed to give always the Moon's Longitude in the Heavens correctly within 45″ of a Degree. But from the NAUTICAL ALMANAC of 1789 to that of 1796, both incluſive, the Moon's Place was inſerted as calculated from new Tables ſtill farther corrected by Mr MASON, entitled by him TABLES of 1780, as having been completed about that Time, being rendered more exact than the former by the Addition of eight Equations to the Number in MAYER's Tables, taken from MAYER's Theory as to the Arguments, but ſettled as to the Maxima, from the ſaid Obſervations, and the Whole being calculated to Tenths of a Second. Theſe laſt new Tables when compared with 177 of the above-mentioned Series of Obſervations, being all in the Whole Series in which certain Tables compoſed by Mr. MASON called Tables of 1778, but leſs exact than thoſe of 1780, differed above 20″ from the Obſervations, ſeemed, after making a proper Allowance for the unavoidable Error of Obſervation, to give always the Moon's Longitude in the Heavens correct within 30 Seconds of a Degree. At the ſame Time the Error of theſe Tables in Latitude ſeemed never to exceed a Minute, which will but triflingly affect the computed Diſtances of the Moon from the Sun and zodiacal Stars ſet down in the EPHEMERIS. It may be proper, however, here to

obſerve, that the 18th Equation of theſe Tables, whoſe Argument is the mean Longitude of the Moon's aſcending Node, or the ſame with that of the laſt Equation, or that of the Equinoctial Points, has been omitted deſignedly in the Calculations of the EPHEMERIS, as it does not yet ſufficiently appear that ſuch an Equation ſhould ariſe from the Theory of Gravity, and the Series of Dr. BRADLEY's Obſervations affords too ſhort a Period to ſtate a Point of ſuch Delicacy as this Equation of not quite 8″ from a ſemi-period only of its Variations.

I ſhall now offer ſome Remarks on Mr. MAYER's mean Motions of the Sun and Moon, thoſe of the Moon being taken the ſame in Mr. MASON's Tables, and propoſe a ſmall Correction of them, as well as of the Longitudes and Latitudes of the fixt Stars.

Mr. MAYER's Tables of the Sun having been ſettled from M. DE LA CAILLE's Obſervations and his own, made between the Years 1750 and 1760, may be ſuppoſed to give the Epochs of the mean Places of the Sun pretty exact for that Time. And Mr. MASON's Tables of 1780 having been ſettled from Dr. BRADLEY's Obſervations, made alſo between 1750 and 1760, may be ſuppoſed to give the Epochs of the mean Places of the Moon pretty exact for that time. But the Rates of the Sun's and Moon's mean Motions for whole Years or Centuries in the ſame Tables may require ſome Correction for the Reaſons which I am now to adduce. MAYER, in the Conſtruction of his Tables, aſſumed the Preceſſion of the Equinoxes, or the annual Motions of the fixt Stars in Longitude, to be exactly 50″,3, without paying any Regard to the Alteration of the Place of the Equinox ariſing from the Tranſlation of the Plane of the Ecliptic by the Action of the Planets. Dr. BRADLEY, by comparing his own Obſervations of Declinations of Stars lying on both Sides of the Equinoctial Colure with the like Obſervations of TYCHO BRAHE, had found the Preceſſion of the Equinoxes in Longitude to be exactly 1° in 71½ Years, or at the Rate of 50″,35 in a Year, which is evidently what ariſes from the Motion of the Plane of the Equator alone, being occaſioned by the Actions of the Sun and Moon upon the ſpheroidical Figure of the Earth. But the Equinoctial Point is alſo altered, though in a far leſs Degree, by the continual Motion of the Plane of the Ecliptic, owing to the Action of the Planets, and goes forward 0″,15 in a Year from that Cauſe along the Ecliptic, which will diminiſh the Preceſſion of the Equinoxes, or the apparent annual Motions of the fixt Stars, lying near the Plane of the Ecliptic, in Longitude as much, and reduce them from 50″,35 to 50″,20, which is 0″,10 leſs than aſſumed in MAYER's Tables; for as to thoſe which have any conſiderable Latitude, their Longitudes will be further affected by a ſecular Variation relative both to their Longitude and Latitude, as expreſſed in the 44th Table annexed to the 1ſt Vo-

lume of my Obſervations made at the Royal Obſervatory, being derived from the ſame Cauſe, the Motion of the Plane of the Ecliptic produced by the Action of the Planets, and its being performed upon an Axis not very remote from the Line of the Equinoxes. It is obvious that the ſame Cauſe will alſo affect the apparent Latitudes of the fixt Stars. Now MAYER having ſettled the mean Motions of the Sun and Moon from the Equinoxes, by Compariſon of Obſervations made in his Time with thoſe made by Aſtronomers in former Ages, and particularly by Mr. FLAMSTEAD 60 Years before him, aſſuming the annual Preceſſion of the Equinoxes to be 50″,3 or 0″,1 too great, and MAYER's mean Motions of the Moon having been adopted in Mr. MASON's Tables, therefore the annual mean Motions of the Sun and Moon from the Equinox in MAYER's Tables, and the Moon's mean Motions in Mr. MASON's Tables are too great by 0″,10 in a Year, and muſt be diminiſhed accordingly, or at the Rate of 10″ in a Hundred Years; agreeable to Schol. 3, Prob. 3, of the Explanation and Uſe of MAYER's Solar and Lunar Tables; where he inſiſts that their mean Motions are rightly ſettled from Obſervations, or very nearly ſo, with reſpect to the fixed Stars; but if it ſhould be thought proper to ſtate the Preceſſion of the Equinox ſlower or quicker than 50″,3 in a Year, the mean Motions of the Sun and Moon ſhould be all made ſlower or quicker by the ſame Quantity.

Hence as the Obſervations by which Mr. MAYER ſettled the Epochs of his ſolar Tables, and by which Mr. MASON ſettled the Epochs of his lunar Tables of 1780, were made about the Year 1756 at a Medium, the Correction of 0″,10 in a Year, above directed to be made to the Moon's Motions, ſhould be dated from that Period; or there ſhould be ſubſtracted at the Rate of 1″ in 10 Years from the Epochs after 1756, and be added at the ſame Rate to the Epochs before 1756, in Mr. MAYER's and Mr. MASON's Tables.

The Longitudes of the Stars of Dr. BRADLEY's Catalogue, inſerted in the NAUTICAL ALMANAC of 1773, having been likewiſe ſettled from his Obſervations made about the Year 1756, and carried on to the Year 1760 by the annual Preceſſion 50″,35, ſhould be firſt reduced back to the Beginning of 1756 by the ſame annual Preceſſion 50″,35 which he uſed, and then carried forward to any future Period, or backward to any preceding one, by the true annual Preceſſion of the Equinoxes 50″,20 for every Year following or preceding 1756, and further corrected by the Equation of the ſecular Motion derived from my 44th Table. The Latitudes of the fixt Stars contained in the ſame Catalogue ſhould alſo be corrected by the ſecular Equation derived from my 45th Table, according to the Number of the Years before or after 1756.

In the Interval of 41 Years, which have elapſed ſince 1756, to the Year 1797, theſe Corrections having amounted to 4″,1 in the

Epochs of Longitude of the Sun and Moon, and to 13″ in the Longitude of ſome of the Stars from which the Moon's Diſtances are computed in the EPHEMERIS, and to 20″ in ſome of their Latitudes, it has been thought proper to allow for them: Therefore the Sun's Place in this EPHEMERIS and the ſucceeding ones will be found computed from MAYER's Tables, and the Moon's Place from Mr. MASON's Tables of 1780, both corrected in the Manner above-mentioned, and the Diſtances of the Moon from the Stars will be found computed from their Longitudes, carried on and corrected as above-mentioned; their Latitudes too ſhould have been taken according to the Corrections above-mentioned, but the general Tables of Moon's Diſtances from the particular Stars having been made Uſe of as far as the EPHEMERIS of 1802 incluſive, in which the Latitudes of the Stars have been taken which belong to the Year 1780, thoſe Corrections could not be applied; the Error reſulting, however, will be very trifling. But in the EPHEMERIS of 1803 the Latitudes as well as Longitudes of the Stars are propoſed to be thoroughly corrected; and the Moon's Diſtances from them computed by the late Mr. TAYLOR's accurate Tables of Logarithmic Sines and Tangents to every Second of the Quadrant.

(Here ſome Examples are inſerted)

To illuſtrate theſe Corrections by Examples:—Let it be required to find the Sun's mean Longitude and that of his Apogee, by MAYER's Tables; and the Moon's mean Longitude, and mean Anomaly, and the mean Longitude of her Node; and the mean Longitude and Latitude of Fomalhaut, all to the Beginning of 1797. The Sun's mean Longitude will be 9ˢ. 10°. 37′. 28″,6, and the Longitude of his Apogee 3ˢ. 9°. 29′. 11″,9. The Moon's mean Longitude 10ˢ. 7°. 34′ 30″,7, and with Acceleration 10ˢ. 7°. 34′. 39″,2. Her mean Anomaly 0ˢ. 24°. 6′. 53″, and with Acceleration 0ˢ. 24°. 7′. 1″,5 and the Longitude of her Node, 3ˢ. 1°. 15′. 1″,9. The Longitude of Fomalhaut, 11ˢ. 0°. 59′. 58″,9 and its Latitude, 21°. 6′. 35″,0 South; its Variation of Longitude in 100 Years different from the mean Preceſſion, at the Rate of 50″,20 in a Year, by Table 44 being + 17″,3 and its Variation of Latitude in the ſame Time by Table 45, being + 17″,2.

The Calculations of the Planets Places have been made for this EPHEMERIS from M. DE LA LANDE's Tables contained in the Second Edition of his Aſtronomy, as they have been for every EPHEMERIS beginning with that of 1780; and thoſe of the Eclipſes of Jupiter's Satellites were made from Mr. WARGENTIN's Tables annexed to the ſame Tables of M. DE LA LANDE, excepting the Eclipſes of Jupiter's Second Satellite, which are inſerted in this EPHEMERIS for the Twenty-ſecond Time from new Tables tranſmitted to me from their learned Author, the late Mr. WARGENTIN, Secretary to the Royal Academy of Sciences at STOCKHOLM, and publiſhed at the End of the Nautical Almanac of 1779.

PREFACE.

All the Articles of the EPHEMERIS were computed by two ſeparate Perſons, and examined by a third, except the Moon's Longitude, Latitude, Right Aſcenſion, Declination, Semidiameter, and Parallax, which for Noon were computed by one Perſon, and for Midnight by another, and the Truth of theſe Calculations aſcertained by Means of Differences, which for the Moon's Longitude were carried as far as the Fourth Order.

NEVIL MASKELYNE,
ASTRONOMER ROYAL.

GREENWICH,
Dec. 2, 1791.

EXPLANATION OF THE CHARACTERS USED IN THE ASTRONOMICAL EPHEMERIS.

The PLANETS, *&c.*

☉ The Sun.	♂ Mars.
☽ The Moon.	♃ Jupiter.
☿ Mercury.	♄ Saturn.
♀ Venus.	♅ Georgian.
⊕ The Earth.	

☊ The Moon's, or any other Planet's Aſcending Node.
☋ The Deſcending Node.
☌ Conjunction, or Planets ſituated in the ſame Longitude.
□ Quadrature, or Planets ſituated in Longitudes differing 3 Signs from each other.
☍ Oppoſition, or Planets ſituated in oppoſite Longitudes, or differing 6 Signs from each other.

N. North.	Inf. Inferior.	Im. Immerſion.
S. South.	Sup. Superior.	Em. Emerſion.

SIGNS of the ZODIAC.

S.		S.	
0	♈ Aries.	6	♎ Libra
1	♉ Taurus.	7	♏ Scorpio.
2	♊ Gemini.	8	♐ Sagittarius.
3	♋ Cancer.	9	♑ Capricornus.
4	♌ Leo.	10	♒ Aquarius.
5	♍ Virgo.	11	♓ Piſces.

PRINCIPAL ARTICLES

OF

THE ALMANAC OF 1802.

Chronological Cycles.

Dominical Letter	C
Lunar Cycle, or Golden Numb.	17
Epact	26
Solar Cycle	19
Roman Indiction	5

Ember Days.

March	10, 12, and 13
June	9, 11, and 12
September	15, 17, and 18
December	15, 17, and 18

MOVEABLE FEASTS.

Septuageſima Sunday	Feb. 14	Low Sunday	Apr. 25
Quinq. or Shrove Sunday	28	Rogation Sunday	May 23
Aſh Wed. or 1ſt Day of Lent	Mar. 3	Aſc. Day, or Holy Thurſ.	27
Mid-Lent Sunday	28	Whit Sunday	June 6
Palm Sunday	Apr. 11	Trinity Sunday	13
EASTER DAY	18	Advent Sunday	Nov. 28

TERMS.

	London.		*Oxford.*		*Cambridge.*	
Names	Begins	Ends	Begins	Ends	Begins	Ends
Hilary, or Lent.	Jan. 23	Feb. 12	Jan. 14	April 10	Jan. 13 Div. Feb. 25 Noon.	April 9
Eaſter	May 5	May 31	April 28	June 3	April 28 Div. June 3 Noon.	July 9
Trinity	June 18	July 7	June 16	July 17		
Michael.	Nov. 6	Nov. 28	Oct. 10	Dec. 17	Oct. 10 Div. Nov. 12 Midn.	Dec. 16

Oxford Act July 12.——*Camb. Commencement July* 6.

OBLIQUITY, &c.

Obliquity of the Ecliptic.	1802	Equation of Equinoctial Points.
D. M. S.		S.
23. 27. 59, 5	Jan. 1.	+ 1, 7
23. 28. 0, 2	Apr. 1.	+ 3, 2
23. 27. 59, 0	July 1.	+ 4, 7
23. 27. 59, 6	Oct. 1.	+ 6, 1
23. 27. 58, 1	Dec. 31.	+ 7, 6

SOLAR AND LUNAR ECLIPSES

IN THE YEAR 1802.

March 3. *SUN eclipsed, invisible at Greenwich.*

♂ at 16h. 55′, in Long. 11s. 12°. 57′. ☽'s Lat. 42′ ⅓ S.
☉ will be centrally eclipsed on the Meridian, at 16h. 23′½, in Long. 114°. 7′½ East, and Lat. 58° ⅓ South.

Mar. 18 and 19. *MOON eclipsed, invisible at Greenwich.*

	D. H. M.
Beginning	18. 21. 49½
Middle	18. 23. 6
Ecliptic ☌	18. 23. 15
End	19. 0. 22½

Digits eclipsed, 5°. 16′ on ☽'s North Limb.

Aug. 27. *SUN eclipsed, partly visible at Greenwich.*

	H. M.
☉ rises eclipsed at	17. 5
Visible ♂	17. 17¼
Greatest Obscuration	17. 18¾
End	18. 13

Digits eclipsed, 4°. 44′ on ☉'s North Limb.

Sept. 11. *MOON eclipsed, visible at Greenwich.*

	H. M.
Beginning	9. 13½
Middle	10. 39¼
Ecliptic ☌	10. 45¾
End	12. 5

Digits eclipsed 9°. 12′. on ☽'s South Limb.

Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
F.	1	Circumcision.
Sa.	2	
Sun.	3	*2d Sun. after Christmas.*
M.	4	
Tu.	5	
W.	6	*Epiphany.*
Th.	7	
F.	8	Lucian.
Sa.	9	
Sun.	10	*1st Sun. after Epiphany.*
M.	11	
Tu.	12	
W.	13	Hil. Cam. Term begins.
Th.	14	Oxford Term begins.
F.	15	
Sa.	16	
Sun.	17	*2d Sun. after Epiphany.*
M.	18	*Q. Charl. birth-day kept.*
Tu.	19	[Prisca.
W.	20	Fabian in 8 days of St.
Th.	21	Agnes. [Hil. 1 ret.
F.	22	Vincent.
Sa.	23	Hilary Term begins.
Sun.	24	*3d Sun. after Epiphany.*
M.	25	*Conversion of St. Paul.*
Tu.	26	
W.	27	*Pr. Aug. Fr. b.* in 15 days
Th.	28	[of St. Hil. 2 ret.
F.	29	
Sa.	30	*K. Charles* I. *Martyr.*
Sun.	31	*4th Sun. after Epiphany.*

Phases of the MOON.

	D. H. M.
● New Moon -----	3. 20. 8
☽ *First Quarter* ----	10. 12. 4
○ Full Moon ----	18. 9. 48
☾ *Last Quarter* ----	26. 12. 57

Other *Phenomena.*

D. H. M.	
1. 6. 18	☽ ☌ ♏
1. 9. 35	☽ ☌ ♏
1. 12. 24	☽ ☌ ♏
6. 4. 34	☽ ☌ ♑
6. 7. 22	☽ ☌ ♑
6. 15. 43	☽ ☌ ♒
7. 12. 45	☽ ☌ ♒
7. 22. 0	☽ ☌ ♒
9. 20. 26	☽ ☌ ♓
10. 2. 27	☽ ☌ ♓
13. - -	♅ Stationary.
13. 9. 30 ½ I.	
13. 10. 21 E.	♄ Pleia. ✱ 11′ 12″ S of ☽ 's C.
N.B. ☽ occults others of the Pleiades	
15. 5. 9	☽ ☌ ♉
16. 2. 30	☽ ☌ Aurigæ.
18. 6. 21	☽ 2 ad ↓ ♋
18. 23. 8	☽ ☍ ♋
20. 4. 27	☉ enters ♒
21. 9. 2 ¼ I.	♃, ✱ 1″ S.
21. 10. 9 E.	2′ ½ N. of ☽ 's C.
21. 15. 18	☽ ☌ ♄
22. 2. 8	☽ ☌ ☊
22. 15. 32 I.	♐ ✱ 11′ ¾ S. of ☽ 's C.
22. 16. 35 ¼ E.	5′ ½
23. 3. 26	☽ ☌ ♍
25. 7. 55	☽ ☌ ♍
28. 7. 37	☽ ☌ ♏
28. 16. 3	☽ ☌ ♏
28. 19. 25	☽ ☌ ♏
28. 22. 21	☽ ☌ ♏
29. 15. 40	☽ 43 Ophiuchi.
30. 21. 51	☽ ☍ ♃

Civil time throughout
Nearly ☉ to the nearest second

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Ascen. in Time. ☉	Declin. South. ✓	Equation of Time. Add. ✓✓	Diff. ∧
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
F.	1	9. 10. 26. 59	18. 45. 28, 4	23. 3. 16	3. 47, 7	28, 5
Sa.	2	9. 11. 28. 12	18. 49. 53, 6	22. 58. 14	4. 16, 2	28, 1
Sun.	3	9. 12. 29. 25	18. 54. 18, 3	22. 52. 45	4. 44, 3	27, 8
M.	4	9. 13. 30. 38	18. 58. 42, 7	22. 46. 48	5. 12, 1	27, 3
Tu.	5	9. 14. 31. 50	19. 3. 6, 7	22. 40. 24	5. 39, 4	26, 9
W.	6	9. 15. 33. 2	19. 7. 30, 2	22. 33. 33	6. 6, 3	26, 5
Th.	7	9. 16. 34. 14	19. 11. 53, 3	22. 26. 15	6. 32, 8	25, 9
F.	8	9. 17. 35. 25	19. 16. 15, 8	22. 18. 30	6. 58, 7	25, 4
Sa.	9	9. 18. 36. 36	19. 20. 37, 8	22. 10. 20	7. 24, 1	24, 8
Sun.	10	9. 19. 37. 46	19. 24. 59, 3	22. 1. 43	7. 48, 9	24, 2
M.	11	9. 20. 38. 55	19. 29. 20, 1	21. 52. 41	8. 13, 1	23, 6
Tu.	12	9. 21. 40. 3	19. 33. 40, 3	21. 43. 13	8. 36, 7	22, 9
W.	13	9. 22. 41. 11	19. 37. 59, 9	21. 33. 20	8. 59, 6	22, 3
Th.	14	9. 23. 42. 18	19. 42. 18, 8	21. 23. 2	9. 21, 9	21, 7
F.	15	9. 24. 43. 23	19. 46. 37, 1	21. 12. 19	9. 43, 6	20, 9
Sa.	16	9. 25. 44. 28	19. 50. 54, 6	21. 1. 12	10. 4, 5	20, 2
Sun.	17	9. 26. 45. 33	19. 55. 11, 5	20. 49. 41	10. 24, 7	19, 5
M.	18	9. 27. 46. 36	19. 59. 27, 6	20. 37. 47	10. 44, 2	18, 8
Tu.	19	9. 28. 47. 39	20. 3. 43, 0	20. 25. 29	11. 3, 0	18, 0
W.	20	9. 29. 48. 41	20. 7. 57, 6	20. 12. 48	11. 21, 0	17, 3
Th.	21	10. 0. 49. 42	20. 12. 11, 5	19. 59. 44	11. 38, 3	16, 6
F.	22	10. 1. 50. 43	20. 16. 24, 6	19. 46. 18	11. 54, 9	15, 8
Sa.	23	10. 2. 51. 43	20. 20. 37, 1	19. 32. 29	12. 10, 7	15, 0
Sun.	24	10. 3. 52. 43	20. 24. 48, 7	19. 18. 19	12. 25, 7	14, 3
M.	25	10. 4. 53. 42	20. 28. 59, 5	19. 3. 48	12. 40, 0	13, 5
Tu.	26	10. 5. 54. 40	20. 33. 9, 6	18. 48. 56	12. 53, 5	12, 6
W.	27	10. 6. 55. 37	20. 37. 18, 9	18. 33. 43	13. 6, 1	11, 9
Th.	28	10. 7. 56. 35	20. 41. 27, 3	18. 18. 10	13. 18, 0	11, 1
F.	29	10. 8. 57. 31	20. 45. 35, 0	18. 2. 18	13. 29, 1	10, 3
Sa.	30	10. 9. 58. 26	20. 49. 41, 9	17. 46. 5	13. 39, 4	9, 5
Sun.	31	10. 10. 59. 21	20. 53. 48, 0	17. 29. 34	13. 48, 9	

✓ to the nearest Minute
✓✓ to the nearest Second
∧ omitted

Days	Time of ☉'s Semidiam. passg Merid.	THE SUN's Semi-diameter	Hourly Motion.	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 11, 0	16. 19, 3	2. 32, 9	9. 992653	11. 24. 33
7	1. 10, 6	16. 19, 1	2. 32, 9	9. 992703	11. 24. 14
13	1. 10, 2	16. 18, 9	2. 32, 8	9. 992817	11. 23. 55
19	1. 9, 6	16. 18, 3	2. 32, 6	9. 993018	11. 23. 36
25	1. 9, 0	16. 17, 7	2. 32, 4	9. 993322	11. 23. 17

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite.

Immersions.

Days.	H. M. S.
* 2	13. 57. 24
4	8. 24. 56
6	2. 52. 30
7	21. 20. 4
* 9	15. 47. 41
*11	10. 15. 18
13	4. 43. 1
14	23. 10. 43
*16	17. 38. 30
*18	12. 6. 16
20	6. 34. 10
22	1. 2. 3
23	19. 30. 0
*25	13. 57. 59
*27	8. 26. 2
29	2. 54. 7
30	21. 22. 15

II. Satellite.

Immersions.

Days.	H. M. S.
2	1. 58. 25
* 5	15. 13. 58
9	4. 29. 37
*12	17. 45. 31
16	7. 1. 38
19	20. 17. 56
*23	9. 34. 30
26	22. 51. 17
*30	12. 8. 17

III. Satellite.

Days.	H. M. S.	
* 6	11. 53. 36	Im.
* 6	15. 21. 27	E.
*13	15. 48. 41	Im.
13	19. 16. 7	E.
20	19. 44. 24	Im.
20	23. 11. 24	E.
27	23. 40. 51	Im.
28	3. 7. 26	E.

IV. Satellite.

Days.	H. M. S.	
* 8	17. 49. 58	Im.
8	22. 31. 32	E.
*25	11. 42. 0	Im.
*25	16. 22. 4	E.

* by the mean Second

THE PLANETS

Days	Heliocentric Long.	Heliocentric Lat.	Geocentric Long.	Geocentric Lat.	Declin.	Passage Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
	☿		*MERCURY.*		Sup. ☌ 27ᵈ. 10ʰ½	
1	7. 20. 46	0. 35 S	8. 25. 13	0. 12 S	23. 35 S	22. 56
4	7. 29. 14	1. 37	8. 29. 43	0. 33	24. 1	23. 2
7	8. 7. 32	2. 35	9. 4. 17	0. 52	24. 16	23. 9
10	8. 15. 46	3. 29	9. 8. 54	1. 10	24. 20	23. 17
13	8. 24. 2	4. 20	9. 13. 36	1. 26	24. 12	23. 24
16	9. 2. 26	5. 5	9. 18. 23	1. 39	23. 51	23. 32
19	9. 11. 2	5. 45	9. 23. 14	1. 50	23. 16	23. 41
22	9. 19. 58	6. 18	9. 28. 10	1. 58	22. 29	23. 49
25	9. 29. 20	6. 43	10. 3. 12	2. 3	21. 28	23. 58
28	10. 9. 16	6. 57	10. 8. 20	2. 5	20. 13	0. 4
31	10. 19. 53	6. 59	10. 13. 34	2. 2	18. 44	0. 13
	♀		*VENUS.*			
1	7. 27. 7	1. 2 N	8. 22. 14	0. 28 N	22. 46 S	22. 42
7	8. 6. 40	0. 29 N	8. 29. 45	0. 13 N	23. 15	22. 48
13	8. 16. 12	0. 5 S	9. 7. 17	0. 2 S	23. 18	22. 55
19	8. 25. 43	0. 38	9. 14. 49	0. 17	22. 56	23. 2
25	9. 5. 13	1. 11	9. 22. 20	0. 31	22. 8	23. 9
	♂		*MARS.*			
1	8. 5. 2	0. 32 S	8. 18. 55	0. 20 S	23. 21 S	22. 25
7	8. 8. 16	0. 38	8. 23. 19	0. 24	23. 42	22. 18
13	8. 11. 32	0. 44	8. 27. 43	0. 28	23. 55	22. 11
19	8. 14. 50	0. 50	9. 2. 10	0. 32	23. 59	22. 5
25	8. 18. 10	0. 55	9. 6. 37	0. 36	23. 54	21. 59
	♃		*JUPITER.*			
1	4. 27. 0	0. 59 N	5. 5. 39	1. 6 N	10. 29 N	15. 43
7	4. 27. 28	0. 59	5. 5. 23	1. 8	10. 36	15. 16
13	4. 27. 56	1. 0	5. 5. 1	1. 10	10. 46	14. 48
19	4. 28. 24	1. 0	5. 4. 32	1. 11	10. 58	14. 21
25	4. 28. 52	1. 0	5. 3. 58	1. 12	11. 11	13. 54
	♄		*SATURN.*			
1	5. 2. 11	1. 37 N	5. 7. 18	1. 44 N	10. 27 N	15. 50
7	5. 2. 24	1. 38	5. 7. 6	1. 45	10. 32	15. 23
13	5. 2. 37	1. 38	5. 6. 52	1. 46	10. 39	14. 56
19	5. 2. 50	1. 38	5. 6. 34	1. 48	10. 47	14. 30
25	5. 3. 2	1. 39	5. 6. 13	1. 49	10. 56	14. 3
	♅		*GEORGIAN.*			
1	6. 3. 58	0. 43 N	6. 7. 3	0. 43 N	2. 8 S	17. 38
11	6. 4. 6	0. 43	6. 7. 6	0. 44	2. 9	16. 55
21	6. 4. 13	0. 43	6. 7. 4	0. 44	2. 8	16. 12

Days of the Week.	Days of the Month.	THE MOON'S Longitude. ✓ Noon.	Longitude. Midnight.	Latitude. ✓ Noon.	Latitude. Midnight.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
F.	1	8. 1. 15. 58	8. 8. 27. 19	4. 39. 12 S	4. 51. 24 S
Sa.	2	8. 15. 45. 27	8. 23. 9. 39	4. 59. 6	5. 1. 53
Sun.	3	9. 0. 38. 54	9. 8. 12. 6	4. 59. 34	4. 52. 1
M.	4	9. 15. 47. 56	9. 23. 25. 2	4. 39. 16	4. 21. 30
Tu.	5	10. 1. 1. 58	10. 8. 37. 24	3. 59. 3	3 32. 25
W.	6	10. 16. 10. 5	10. 23. 38. 55	3. 2. 10	2. 28. 59
Th.	7	11. 1. 3. 3	11. 8. 21. 45	1. 53. 33	1. 16. 37
F.	8	11. 15. 34. 36	11. 22. 41. 17	0. 38. 54 S	0. 1. 4 S
Sa.	9	11. 29. 41. 43	0. 6. 55. 55	0. 36. 16 N	1. 12. 32 N
Sun.	10	0. 13. 24. 7	0. 20. 16. 32	1. 47. 14	2. 19. 59
M.	11	0. 26. 43. 32	1. 3. 15. 29	2. 50. 20	3. 18. 3
Tu.	12	1. 9. 42. 50	1. 16. 5. 57	3. 42. 55	4. 4. 40
W.	13	1. 22. 25. 16	1. 28. 41. 10	4. 23. 12	4. 38. 22
Th.	14	2. 4. 54. 1	2. 11. 4. 8	4. 50. 6	4. 58. 20
F.	15	2. 17. 11. 49	2. 23. 17. 22	5. 3. 5	5. 4. 20
Sa.	16	2. 29. 21. 0	3. 5. 22. 53	5. 2. 9	4. 56. 34
Sun.	17	3. 11. 23. 16	3. 17. 22. 16	4. 47. 45	4. 35. 45
M.	18	3. 23. 20. 4	3. 29. 16. 29	4. 20. 45	4. 2. 56
Tu.	19	4. 5. 12. 41	4. 11. 7. 55	3. 42. 30	3. 19. 38
W.	20	4. 17. 2. 39	4. 22. 57. 11	2. 54. 38	2. 27. 42
Th.	21	4. 28. 51. 46	5. 4. 46. 45	1. 59. 8	1. 29. 11
F.	22	5. 10. 42. 28	5. 16. 39. 21	0. 58. 10 N	0. 26. 22 N
Sa.	23	5. 22. 37. 50	5. 28. 38. 23	0. 5. 54 S	0. 38. 19 S
Sun.	24	6. 4. 41. 35	6. 10. 47. 57	1. 10. 35	1. 42. 20
M.	25	6. 16. 58. 3	6. 23. 12. 31	2. 13. 15	2. 42. 56
Tu.	26	6. 29. 31. 54	7. 5. 56. 48	3. 11. 2	3. 37. 8
W.	27	7. 12. 27. 44	7. 19. 5. 12	4. 0. 52	4. 21. 45
Th	28	7. 25. 49. 33	8. 2. 41. 4	4. 39. 26	4. 53. 26
F.	29	8. 9. 39. 54	8. 16. 46. 1	5. 3. 23	5. 8. 52
Sa.	30	8. 23. 59. 11	9. 1. 18. 57	5. 9. 36	5. 5. 18
Sun.	31	9. 8. 44. 40	9. 16. 15. 24	4. 55. 52	4. 41. 14

✓ to the nearest minute instead of to minutes & seconds.

Days of the Week.	Days of the Month.	THE MOON's Age.	Passage Merid.	Right Ascension. Noon.	Right Ascension. Midnight.	Declination. Noon.	Declination. Midnight.
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
F.	1	28	22. 1	238. 5	245. 51	24. 59 S	26. 32 S
Sa.	2	29	23. 6	253. 56	262. 15	27. 40	28. 19
Sun.	3	1	ó	270. 44	279. 16	28. 27	28. 4
M.	4	2	0. 13	287. 45	296. 6	27. 9	25. 44
Tu.	5	3	1. 17	304. 13	312. 3	23. 50	21. 32
W.	6	4	2. 16	319. 35	326. 50	18. 54	16. 0
Th.	7	5	3. 10	333. 47	340. 29	12. 53	9. 38
F.	8	6	3. 59	346. 59	353. 18	6. 17 S	2. 55 S
Sa.	9	7	4. 46	359. 29	5. 35	0. 26 N	3. 44 N
Sun.	10	8	5. 32	11. 38	17. 40	6. 57	10. 2
M.	11	9	6. 17	23. 44	29. 52	12. 58	15. 43
Tu.	12	10	7. 4	36. 4	42. 22	18. 16	20. 34
W.	13	11	7. 53	48. 47	55. 20	22 38	24. 25
Th.	14	12	8. 44	61. 59	68. 43	25. 53	27. 3
F.	15	13	9. 36	75. 32	82. 24	27. 53	28. 22
Sa.	16	14	10. 28	89. 16	96. 5	28. 30	28. 18
Sun.	17	15	11. 19	102. 51	109. 30	27. 45	26. 54
M.	18	16	12. 8	116. 0	122. 22	25. 44	24. 17
Tu.	19	17	12. 54	128. 33	134. 34	22. 35	20. 39
W.	20	18	13. 37	140. 26	146. 8	18. 31	16. 12
Th.	21	19	14. 18	151. 43	157. 11	13. 45	11. 9
F.	22	20	14. 58	162. 34	167. 54	8. 27	5. 41 N
Sa.	23	21	15. 37	173. 12	178. 30	2. 50 N	0. 3 S
Sun.	24	22	16. 17	183. 50	189. 15	2. 57 S	5. 51
M.	25	23	17. 0	194. 46	200. 27	8. 43	11. 33
Tu.	26	24	17. 46	206. 18	212. 23	14. 18	16. 56
W.	27	25	18. 36	218. 43	225. 21	19. 25	21. 42
Th.	28	26	19. 33	232. 17	239. 34	23. 45	25. 31
F.	29	27	20. 34	247. 9	255. 3	26. 55	27. 56
Sa.	30	28	21. 40	263. 11	271. 30	28. 29	28. 33
Sun.	31	29	22. 44	279. 53	288. 16	28. 6	27. 8

Days of the Week.	Days of the Month.	THE MOON'S Semidiameter.		Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*		
		M. S.	M. S.	M. S.	M. S.	*Noon.*	*Midn.*
F.	1	16. 12	16. 19	59. 26	59. 53	4812	4779
Sa.	2	16. 26	16. 32	60. 18	60. 39	4750	4724
Sun.	3	16. 36	16. 40	60. 56	61. 9	4704	4689
M.	4	16. 42	16. 43	61. 18	61. 22	4678	4673
Tu.	5	16. 43	16. 42	61. 22	61. 16	4673	4680
W.	6	16. 39	16. 35	61. 6	60. 52	4692	4709
Th.	7	16. 30	16. 25	60. 34	60. 14	4730	4754
F.	8	16. 19	16. 12	59. 51	59. 27	4782	4811
Sa.	9	16. 5	15. 58	59. 2	58. 36	4842	4874
Sun.	10	15. 51	15. 44	58. 10	57. 45	4906	4937
M.	11	15. 38	15. 31	57. 21	56. 58	4967	4996
Tu.	12	15. 25	15. 20	56. 36	56. 15	5025	5051
W.	13	15. 14	15. 10	55. 56	55. 38	5076	5099
Th.	14	15. 6	15. 2	55. 23	55. 9	5119	5137
F.	15	14. 58	14. 55	54. 56	54. 45	5154	5169
Sa.	16	14. 53	14. 51	54. 36	54. 28	5181	5191
Sun.	17	14. 49	14. 47	54. 21	54. 15	5201	5209
M.	18	14. 46	14. 45	54. 11	54. 8	5214	5218
Tu.	19	14. 45	14. 44	54. 6	54. 5	5221	5222
W.	20	14. 45	14. 45	54. 6	54. 8	5221	5218
Th.	21	14. 46	14. 47	54. 11	54. 16	5214	5207
F.	22	14. 49	14. 51	54. 23	54. 31	5198	5187
Sa.	23	14. 54	14. 57	54. 41	54. 53	5174	5158
Sun.	24	15. 1	15. 6	55. 8	55. 25	5138	5116
M.	25	15. 11	15. 17	55. 43	56. 4	5093	5065
Tu.	26	15. 23	15. 29	56. 27	56. 51	5036	5005
W.	27	15. 37	15. 44	57. 17	57. 44	4972	4938
Th.	28	15. 52	15. 59	58. 13	58. 41	4902	4867
F.	29	16. 7	16. 15	59. 10	59. 38	4832	4798
Sa.	30	16. 22	16. 29	60. 4	60. 28	4766	4737
Sun.	31	16. 35	16. 40	60. 50	61. 8	4711	4690

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
	5	94. 29. 6	92. 35. 54	90. 42. 46	88. 49. 45	86. 56. 52	85. 4. 7	83. 11. 32	81. 19. 9
α Arietis.	6	79. 26. 56	77. 34. 57	75. 43. 14	73. 51. 45	72. 0. 32	70. 9. 36	68. 18. 59	66. 28. 41
	7	64. 38. 42	62. 49. 4	60. 59. 48	59. 10. 55	57. 22. 23	55. 34. 15	53. 46. 32	51. 59. 13
	8	50. 12. 20							
	8	81. 25. 38	79. 39. 47	77. 54. 19	76. 9. 16	74. 24. 37	72. 40. 23	70. 56. 35	69. 13. 13
	9	67. 30. 16	65. 47. 47	64. 5. 44	62. 24. 8	60. 42. 59	59. 2. 16	57. 22. 2	55. 42. 15
Aldebaran.	10	54. 2. 56	52. 24. 6	50. 45. 45	49. 7. 54	47. 30. 32	45. 53. 40	44. 17. 20	42. 41. 33
	11	41. 6. 18	39. 31. 35	37. 57. 29	36. 24. 2	34. 51. 13	33. 18. 59	31. 47. 35	30. 17. 1
	12	28. 47. 18	27. 18 35	25. 50. 55	24. 24. 23	22. 59. 1			
	12	- - -	- - -	- - -	- - -	64. 7. 45	62. 32. 47	60. 58. 4	59. 23. 36
Pollux.	13	57. 49. 23	56. 15. 24	54. 41. 38	53. 8. 5	51. 34. 46	50. 1. 39	48. 28. 44	46. 56. 0
	14	45. 23. 29	43. 51. 9	42. 19. 0	40. 47. 1	39. 15. 13			
	14	- - -	- - -	- - -	- - -	76. 1. 48	74. 30. 3	72. 58. 27	71. 26. 59
	15	69. 55. 40	68. 24. 29	66. 53. 27	65. 22. 31	63. 51. 44	62. 21. 4	60. 50. 30	59. 20. 3
	16	57. 49. 43	56. 19. 30	54. 49. 22	53. 19. 20	51. 49. 24	50. 19. 33	48. 49. 46	47. 20. 5
	17	45. 50. 29	44. 20. 58	42. 51. 31	41. 22. 9	39. 52. 5	38. 23. 36	36. 54. 26	35. 25. 18
Regulus.	18	33. 56. 15	32. 27. 15	30. 58. 19	29. 29. 26	28. 0. 36	26. 31. 50	25. 3. 6	23. 34. 26
	19	22. 5. 49							

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Spica ♍	19	76. 2.45	74.33.53	73. 5. 3	71.36.14	70. 7.27	68.38.41	67. 9.54	65.41. 9
	20	64.12.23	62.43.37	61.14.50	59.46. 2	58.17.14	56.48.25	55.19.34	53.50.41
	21	52.21.47	50.52.50	49.23.51	47.54.49	46.25.44	44.56.36	43.27.23	41.58. 7
	22	40.28.46	38.59.21	37.29.51	36. 0.14	34.30.33	33. 0.45	31.30.50	30. 0.48
	23	28.30.39	27. 0.23	25.29.58	23.59.26	22.28.44			
Antares ♏	23	- - -	- - -	- - -	- - -	68.22.32	66.51.39	65.20.36	63.49.23
	24	62.17.59	60.46.24	59.14.36	57.42.36	56.10.23	54.37.57	53. 5.17	51.32.22
	25	49.59.13	48.25.48	46.52. 8	45.18.10	43.43.57	42. 9.26	40.34.37	38.59.29
	26	37.24. 3	35.48.17	34.12.12	32.35.46	30.59. 0			
The Sun.	23	- - -	- - -	- - -	- - -	- - -	- - -	- - -	120.34.14
	24	119.10.43	117.47. 0	116.23. 5	114.58.56	113.34.35	112.10. 1	110.45.11	109.20. 8
	25	107.54.49	106.29.14	105. 3.23	103.37.15	102.10.50	100.44. 8	99.17. 7	97.49.48
	26	96.22.10	94.54.13	93.25.55	91.57.17	90.28.18	88.58.57	87.29.15	85.59. 9
	27	84.28.42	82.57.51	81.26.37	79.54.59	78.22.57	76.50.31	75.17.40	73.44.23
	28	72.10.42	70.36.35	69. 2. 1	67.27. 2	65.51.37	64.15.45	62.39.27	61. 2.43
	29	59.25.33	57.47.56	56. 9.54	54.31.25	52.52.31	51.13.10	49.33.25	47.53.15
	30	46.12.41	44.31.43	42.50.22	41. 8.39	39.26.33			

B

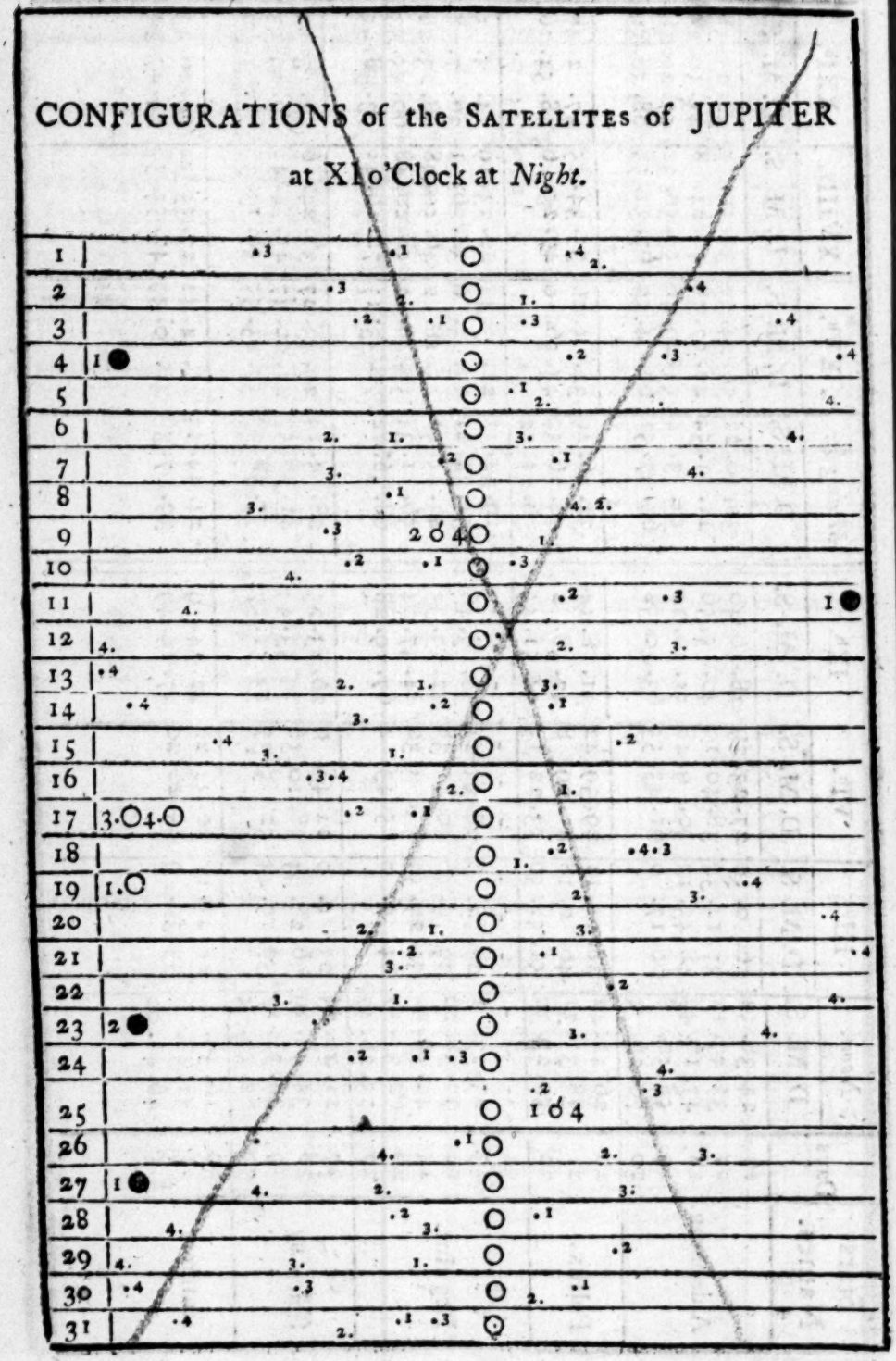
DISTANCES of MOON's *Center* from SUN, and from STARS *WEST* of her.

Stars Names.	Days	*Noon.*	IIIh.	VIh.	IXh.	*Midnight.*	XVh.	XVIIIh.	XXIh.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Spica ♍	1	40. 11. 51	41. 58. 42	43. 45. 59	45. 33. 42	47. 21. 51	49. 10. 25	50. 59. 22	52. 48. 42
	2	54. 38. 26	56. 28. 32	58. 18. 59	60. 9. 47	62. 0. 56			
	6	- - -	- - -	- - -	- - -	37. 39. 29	39. 22. 40	41. 5. 36	42. 48. 18
	7	44. 30. 44	46. 12. 54	47. 54. 46	49. 36. 21	51. 17. 37	52. 58. 34	54. 39. 10	56. 19. 25
	8	57. 59. 20	59. 38. 52	61. 18. 3	62. 56. 51	64. 35. 17	66. 13. 20	67. 51. 0	69. 28. 17
The Sun.	9	71. 5. 11	72. 41. 41	74. 17. 49	75. 53. 33	77. 28. 54	79. 3. 52	80. 38. 28	82. 12. 41
	10	83. 46. 32	85. 20. 0	86. 53. 6	88. 25. 50	89. 58. 12	91. 30. 13	93. 1. 52	94. 33. 12
	11	96. 4. 10	97. 34. 48	99. 5. 7	100. 35. 7	102. 4. 47	103. 34. 9	105. 3. 12	106. 31. 58
	12	108. 0. 26	109. 28. 36	110. 56. 30	112. 24. 7	113. 51. 28	115. 18. 33	116. 45. 24	118. 11. 59
	13	119. 38. 20							
	10	- - -	- - -	- - -	- - -	53. 23. 29	54. 54. 56	56. 26. 20	57. 57. 43
Fomalhaut.	11	59. 29. 3	61. 0. 19	62. 31. 30	64. 2. 35	65. 33. 34	67. 4. 25	68. 35. 7	70. 5. 41
♌	12	71. 36. 6	73. 6. 21	74. 36. 25	76. 6. 20	77. 36. 4	79. 5. 38	80. 35. 1	82. 4. 13
	13	83. 33. 13							
	13	18. 15. 12	19. 43. 30	21. 12. 15	22. 41. 21	24. 10. 48	25. 40. 32	27. 10. 25	28. 40. 28
	14	30. 10. 41	31. 40. 51	33. 11. 2	34. 41. 14	36. 11. 27	37. 41. 35	39. 11. 41	40. 41. 44
♈ Arietis.	15	42. 11. 45	43. 41. 42	45. 11. 35	46. 41. 24	48. 11. 10	49. 40. 52	51. 10. 29	52. 40. 3
	16	54. 9. 30							

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Aldebaran.	16	24. 38. 52	26. 0. 52	27. 23. 29	28. 46. 40	30. 10. 22	31. 34. 33	32. 59. 5	34. 23. 58
	17	35. 49. 12	37. 14. 35	38. 40. 10	40. 5. 56	41. 31. 54	42. 57. 58	44. 24. 8	45. 50. 25
	18	47. 16. 49	48. 43. 17	50. 9. 48	51. 36. 24	53. 3. 4	54. 29. 46	55. 56. 31	57. 23. 18
	19	58. 50. 8	60. 17. 0	61. 43. 55	63. 10. 52	64. 37. 51	66. 4. 52	67. 31. 55	68. 58. 59
	20	70. 26. 5							
Pollux.	20	26. 42. 42	28. 11. 11	29. 39. 42	31. 8. 14	32. 36. 49	34. 5. 26	35. 34. 5	37. 2. 47
	21	38. 31. 31	40. 0. 18	41. 29. 8	42. 58. 2	44. 26. 59	45. 56. 0	47. 25. 6	48. 54. 16
	22	50. 23. 30	51. 52. 50	53. 22. 15	54. 51. 45	56. 21. 22			
Regulus.	22	- - -	- - -	- - -	- - -	19. 34. 11	21. 3. 41	22. 33. 19	24. 3. 5
	23	25. 33. 1	27. 3. 6	28. 33. 21	30. 3. 46	31. 34. 21	33. 5. 6	34. 36. 1	36. 7. 8
	24	37. 38. 26	39. 9. 56	40. 41. 38	42. 13. 33	43. 45. 41	45. 18. 2	46. 50. 38	48. 23. 28
	25	49. 56. 33	51. 29. 53	53. 3. 30	54. 37. 24	56. 11. 34	57. 46. 2	59. 20. 48	60. 55. 53
	26	62. 31. 17	64. 7. 0	65. 43. 4	67. 19. 28	68. 56. 12	70. 33. 17	72. 10. 45	73. 48. 35
	27	75. 26. 47							
Spica ♍	27	21. 26. 23	23. 5. 0	24. 44. 0	26. 23. 25	28. 3. 14	29. 43. 27	31. 24. 6	33. 5. 10
	28	34. 46. 39	36. 28. 34	38. 10. 56	39. 53. 43	41. 36. 57	43. 20. 37	45. 4. 44	46. 49. 17
	29	48. 34. 17	50. 19. 44	52. 5. 37	53. 51. 57	55. 38. 43	57. 25. 55	59. 13. 33	61. 1. 36
	30	62. 50. 5							
Antares.	30	16. 56. 19	18. 45. 11	20. 34. 28	22. 24. 9	24. 14. 14	26. 4. 42	27. 55. 32	29. 46. 43
	31	31. 38. 16	33. 30. 9	35. 22. 20	37. 14. 49	39. 7. 36	41. 0. 39	42. 53. 58	44. 47. 32
	F. 1	46. 41. 20.							

CONFIGURATIONS of the SATELLITES of JUPITER

at XI o'Clock at *Night.*



Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
M.	1	
Tu.	2	*Purif. of B. V. Mary.*
W.	3	Blas. on mor. of Pur. 3 r.
Th.	4	
F.	5	Agatha.
Sa.	6	
Sun.	7	*5th Sun. after Epiphany.*
M.	8	
Tu.	9	In 8 Days of Purif. 4 ret.
W.	10	
Th.	11	
F.	12	Hilary Term ends.
Sa.	13	
Sun.	14	*Septuages. Sun.* Valentine.
M.	15	
Tu.	16	
W.	17	
Th.	18	
F.	19	
Sa.	20	
Sun.	21	*Sexagesima Sunday.*
M.	22	
Tu.	23	
W.	24	*St. Mat. Pr. Adol. Fr. b.*
Th.	25	Cam. Term div. n.
F.	26	
Sa.	27	
Sun.	28	*Quinquagesima Sunday.*

Phases of the MOON.

	D.	H.	M.
● New Moon ----	2.	6.	34
☽ *First Quarter* ----	9.	2.	1
○ Full Moon -----	17.	5.	8
☾ *Last Quarter* ----	25.	1.	49

Other *Phenomena.*

D.	H.	M.	
4.	7.	53	☽ ♀ ♒
6.	10.	28	☽ ι ♓
9.	15.	16	☽ η Pleiadum.
11.	10.	57	☽ β ♉
12.	8.	20	☽ κ Aurigæ.
13.	15.	33	☽ ι ♊
14.	12.	24	☽ ☌ ad ↓ ♋
15.	5.	14	☽ γ ♋
17.	9.	4¾ I.	♃, ✱ 8′⅓ S. of ☽'s C.
17.	10.	13½ E.	4′
17.	17.	24	☽ ♄
18.	8.	6	☽ χ ☊
18.	19.	14	☉ enters ♓
18.	22.	6	☽ τ ☊
19.	9.	17	☽ β ♍
21.	13.	48	☽ α ♍
24.	13.	13½ I.	π ♏, ✱ 9′, N. of ☽'s C.
24.	13.	59 E.	13
25.	3.	2	☽ α ♎
26.	0.	1	☽ 43 Ophiuchi.
27.	15.	4	☽ τ ♐

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Ascen. *in Time.*	Declin. *South.*	Equation of Time. *Add.*	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
M.	1	10. 12. 0. 15	20. 57. 53, 2	17. 12. 44	13. 57, 6	7, 8
Tu.	2	10. 13. 1. 7	21. 1. 57, 7	16. 55. 36	14. 5, 4	7, 0
W.	3	10. 14. 1. 59	21. 6. 1, 2	16. 38. 10	14. 12, 4	6, 2
Th.	4	10. 15. 2. 49	21. 10. 4, 0	16. 20. 27	14. 18, 6	5, 4
F.	5	10. 16. 3. 37	21. 14. 5, 9	16. 2. 27	14. 24, 0	4, 5
Sa.	6	10. 17. 4. 24	21. 18. 7, 1	15. 44. 10	14. 28, 5	3, 7
Sun.	7	10. 18. 5. 10	21. 22. 7, 3	15. 25. 38	14. 32, 2	2, 9
M.	8	10. 19. 5. 54	21. 26. 6, 8	15. 6. 49	14. 35, 1	2, 1
Tu.	9	10. 20. 6. 36	21. 30. 5, 4	14. 47. 46	14. 37, 2	1, 2
W.	10	10. 21. 7. 16	21. 34. 3, 2	14. 28. 28	14. 38, 4	0, 4
Th.	11	10. 22. 7. 55	21. 38. 0, 2	14. 8. 56	14. 38, 8	0, 3
F.	12	10. 23. 8. 32	21. 41. 56, 4	13. 49. 10	14. 38, 5	1, 2
Sa.	13	10. 24. 9. 7	21. 45. 51, 8	13. 29. 10	14. 37, 3	1, 9
Sun.	14	10. 25. 9. 40	21. 49. 46, 4	13. 8. 57	14. 35, 4	2, 7
M.	15	10. 26. 10. 11	21. 53. 40, 3	12. 48. 32	14. 32, 7	3, 4
Tu.	16	10. 27. 10. 41	21. 57. 33, 4	12. 27. 54	14. 29, 3	4, 2
W.	17	10. 28. 11. 9	22. 1. 25, 8	12. 7. 5	14. 25, 1	4, 8
Th.	18	10. 29. 11. 35	22. 5. 17, 5	11. 46. 4	14. 20, 3	5, 6
F.	19	11. 0. 12. 0	22. 9. 8, 5	11. 24. 51	14. 14, 7	6, 2
Sa.	20	11. 1. 12. 23	22. 12. 58, 8	11. 3. 28	14. 8, 5	6, 9
Sun.	21	11. 2. 12. 45	22. 16. 48, 4	10. 41. 55	14. 1, 6	7, 5
M.	22	11. 3. 13. 5	22. 20. 37, 5	10. 20. 12	13. 54, 1	8, 1
Tu.	23	11. 4. 13. 24	22. 24. 25, 9	9. 58. 20	13. 46, 0	8, 7
W.	24	11. 5. 13. 42	22. 28. 13, 7	9. 36. 18	13. 37, 3	9, 3
Th.	25	11. 6. 13. 58	22. 32. 0, 9	9. 14. 7	13. 28, 0	9, 9
F.	26	11. 7. 14. 12	22. 35. 47, 6	8. 51. 48	13. 18, 1	10, 4
Sa.	27	11. 8. 14. 26	22. 39. 33, 7	8. 29. 21	13. 7, 7	11, 0
Sun.	28	11. 9. 14. 38	22. 43. 19, 3	8. 6. 46	12. 56, 7	

Days	Time of ☉'s Semidiam. passg Merid.	THE SUN's Semi-diameter	Hourly Motion.	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 8, 1	16. 16, 7	2. 32, 2	9. 993771	11. 22. 55
7	1. 7, 5	16. 15, 7	2. 31, 9	9. 994209	11. 22. 36
13	1. 6, 8	16. 14, 6	2. 31, 5	9. 994694	11. 22. 17
19	1. 6, 2	16. 13, 3	2. 31, 0	9. 995253	11. 21. 58
25	1. 5, 7	16. 12, 0	2. 30, 6	9. 995883	11. 21. 38

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite. *Immersions.*		II. Satellite. *Immersions.*		III. Satellite.	
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.
* 1	15. 50. 24	3	1. 25. 34	4	3. 38. 7 Im.
* 3	10. 18. 38	* 6	14. 43. 3	* 4	7. 4. 15 E.
5	4. 46. 55	10	4. 0. 48	*11	7. 36. 9 Im.
6	23. 15. 13	*13	17. 18. 45	*11	11. 1. 47 E.
* 8	17. 43. 36	*17	6. 36. 58	*18	11. 35. 2 Im.
*10	12. 12. 0		*Emersions*	*18	15. 0. 9 E.
*12	6. 40. 29	20	22. 45. 49	*25	15. 34. 32 Im.
14	1. 8. 59	*24	12. 4. 22	25	18. 59. 11 E.
15	19. 37. 34	28	1. 23. 18		
*17	14. 6. 8				
*19	8. 34. 48				
	Emersions			IV. Satellite.	
21	5. 18. 27				
22	23. 47. 10			11	5. 38. 17 Im.
24	18. 15. 53			*11	10. 16. 37 E.
*26	12. 44. 42			27	23. 38. 48 Im.
*28	7. 13. 30			28	4. 15. 14 E.

Days	THE PLANETS					
	Heliocentric		Geocentric		Declin.	Passage Merid.
	Long.	Lat.	Long.	Lat.		
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
	☿ Great Elong. 24d. *MERCURY.*					
1	10. 23. 36	6. 56 S	10. 15. 20	2. 1 S	18. 11 S	0. 16
4	11. 5. 25	6. 36	10. 20. 41	1. 52	16. 23	0. 25
7	11. 18. 18	5. 56	10. 26. 6	1. 39	14. 23	0. 34
10	0. 2. 25	4. 50	11. 1. 32	1. 20	12. 11	0. 42
13	0. 17. 52	3. 19	11. 6. 54	0. 55	9. 50	0. 50
16	1. 4. 40	1. 23 S	11. 12. 5	0. 23 S	7. 24	0. 57
19	1. 22. 38	0. 49 N	11. 16. 53	0. 14 N	4. 58	1. 2
22	2. 11. 23	3. 1	11. 21. 2	0. 56	2. 42	1. 5
25	3. 0. 18	4. 54	11. 24. 16	1. 40	0. 45 S	1. 4
28	3. 18. 44	6. 14	11. 26. 20	2. 23	0. 43 N	0. 59
	♀ *VENUS.*					
1	9. 16. 17	1. 46 S	10. 1. 7	0. 46 S	20. 41 S	23. 17
7	9. 25. 46	2. 13	10. 8. 38	0. 58	19. 2	23. 24
13	10. 5. 15	2. 37	10. 16. 9	1. 7	17. 5	23. 31
19	10. 14. 44	2. 56	10. 23. 39	1. 15	14. 50	23. 37
25	10. 24. 13	3. 10	11. 1. 9	1. 21	12. 20	23. 44
	♂ *MARS.*					
1	8. 22. 5	1. 2 S	9. 11. 51	0. 41 S	23. 37 S	21. 53
7	8. 25. 30	1. 7	9. 16. 22	0. 45	23. 12	21. 49
13	8. 28. 56	1. 12	9. 20. 53	0. 48	22. 39	21. 44
19	9. 2. 24	1. 17	9. 25. 26	0. 52	21. 56	21. 41
25	9. 5. 55	1. 22	9. 29. 59	0. 56	21. 5	21. 37
	♃ *JUPITER.*					8 19d. 15½h.
1	4. 29. 25	1. 1 N	5. 3. 12	1. 14 N	11. 29 N	13. 22
7	4. 29. 52	1. 1	5. 2. 29	1. 15	11. 46	12. 55
13	5. 0. 20	1. 2	5. 1. 43	1. 15	12. 3	12. 29
19	5. 0. 48	1. 2	5. 0. 56	1. 16	12. 20	12. 3
25	5. 1. 16	1. 3	5. 0. 9	1. 16	12. 38	11. 37
	♄ *SATURN.*					8 22d. 20h.
1	5. 3. 17	1. 39 N	5. 5. 45	1. 50 N	11. 7 N	13. 33
7	5. 3. 30	1. 40	5. 5. 19	1. 51	11. 18	13. 7
13	5. 3. 43	1. 40	5. 4. 51	1. 52	11. 29	12. 41
19	5. 3. 56	1. 41	5. 4. 22	1. 53	11. 40	12. 17
25	5. 4. 8	1. 41	5. 3. 53	1. 53	11. 51	11. 52
	♅ *GEORGIAN.*					
1	6. 4. 22	0. 43 N	6. 6. 54	0. 44 N	2. 4 S	15. 26
11	6. 4. 30	0. 43	6. 6. 41	0. 45	1. 58	14. 45
21	6. 4. 38	0. 43	6. 6. 23	0. 45	1. 51	14. 5

Days of the Week.	Days of the Month.	THE MOON's Longitude. Noon.	Longitude. Midnight.	Latitude. Noon.	Latitude. Midnight.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
M.	1	9. 23. 50. 10	10. 1. 27. 41	4. 21. 34 S	3. 57. 6 S
Tu.	2	10. 9. 6. 37	10. 16. 45. 36	3. 28. 19	2. 55. 44
W.	3	10. 24. 23. 15	11. 1. 58. 16	2. 20. 3	1. 42. 2
Th.	4	11. 9. 29 30	11. 16. 55. 55	1. 2. 31 S	0. 22. 17 S
F.	5	11. 24. 16. 44	0. 1. 31. 21	0. 17. 51 N	0. 57. 11 N
Sa.	6	0. 8. 39. 18	0. 15. 40. 26	1. 35. 1	2. 10. 50
Sun.	7	0. 22. 34. 42	0. 29. 22. 12	2. 44. 9	3. 14. 34
M.	8	1. 6. 3. 10	1. 12. 37. 54	3. 41. 51	4. 5. 44
Tu.	9	1. 19. 6. 51	1. 25. 30. 26	4. 26. 6	4. 42. 51
W.	10	2. 1. 49. 9	2. 8. 3. 29	4. 55. 57	5. 5. 22
Th.	11	2. 14. 13. 57	2. 20. 21. 0	5. 11. 8	5. 13. 18
F.	12	2. 26. 25. 8	3. 2. 26. 50	5. 11. 55	5. 7. 5
Sa.	13	3. 8. 26. 28	3. 14. 24. 28	4. 58. 55	4. 47. 31
Sun.	14	3. 20. 21. 10	3. 26. 16. 56	4. 33. 3	4. 15. 41
M.	15	4. 2. 12. 5	4. 8. 6. 53	3. 55. 34	3. 32. 57
Tu.	16	4. 14. 1. 35	4. 19. 56. 29	3. 8. 1	2. 41. 1
W.	17	4. 25. 51. 47	5. 1. 47. 45	2. 12. 14	1. 41. 55
Th.	18	5. 7. 44. 35	5. 13. 42. 33	1. 10. 25	0. 38. 0 N
F.	19	5. 19. 41. 52	5. 25. 42. 51	0. 5. 0 N	0. 28. 13 S
Sa.	20	6. 1. 45. 44	6. 7. 50. 52	1. 1. 19 S	1. 33. 56
Sun.	21	6. 13. 58. 33	6. 20. 9. 10	2. 5. 44	2. 36. 18
M.	22	6. 26. 23. 2	7. 2. 40. 37	3. 5. 18	3. 32. 21
Tu.	23	7. 9. 2. 15	7. 15. 28. 22	3. 57. 6	4. 19. 8
W.	24	7. 21. 59. 19	7. 28. 35. 27	4. 38. 8	4. 53. 43
Th.	25	8. 5. 17. 5	8. 12. 4. 30	5. 5. 33	5. 13. 19
F.	26	8. 18. 57. 50	8. 25. 57. 6	5. 16. 45	5. 15. 34
Sa.	27	9. 3. 2. 19	9. 10. 13. 12	5. 9. 36	4. 58. 45
Sun.	28	9. 17. 29. 28	9. 24. 50. 36	4. 43. 0	4. 22. 26

Days of the Week.	Days of the Month.	THE MOON's Age.	Passage Merid.	Right Ascension.		Declination.	
				Noon.	*Midnight.*	*Noon.*	*Midnight.*
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
M.	1	30	23. 48	296. 33	304. 39	25. 39 S	23. 43 S
Tu.	2	1	♂	312. 32	320. 9	21. 21	18. 37
W.	3	2	0. 46	327. 30	334. 36	15. 36	12. 22
Th.	4	3	1. 39	341. 28	348. 8	8. 59	5. 30 S
F.	5	4	2. 29	354. 38	1. 1	2. 0 S	1. 29 N
Sa.	6	5	3. 17	7. 19	13. 35	4. 53 N	8. 11
Sun.	7	6	4. 5	19. 50	26. 7	11. 20	14. 18
M.	8	7	4. 53	32. 27	38. 51	17. 2	19. 33
Tu.	9	8	5. 43	45. 21	51. 56	21. 47	23. 44
W.	10	9	6. 34	58. 37	65. 23	25. 23	26. 42
Th.	11	10	7. 27	72. 12	79. 4	27. 41	28. 19
F.	12	11	8. 19	85. 56	92. 47	28. 37	28. 34
Sa.	13	12	9. 11	99. 33	106. 13	28. 10	27. 27
Sun.	14	13	10. 1	112. 47	119. 11	26. 25	25. 6
M.	15	14	10. 48	125. 26	131. 32	23. 31	21. 41
Tu.	16	15	11. 32	137. 28	143. 15	19. 38	17. 24
W.	17	16	12. 15	148. 54	154. 26	14. 59	12. 26
Th.	18	17	12. 55	159. 52	165. 14	9. 46	7. 0
F.	19	18	13. 35	170. 34	175. 53	4. 10 N	1. 16 N
Sa.	20	19	14. 15	181. 13	186. 35	1. 38 S	4. 33 S
Sun.	21	20	14. 57	192. 2	197. 36	7. 27	10. 18
M.	22	21	15. 42	203. 19	209. 13	13. 4	15. 44
Tu.	23	22	16. 30	215. 19	221. 39	18. 16	20. 37
W.	24	23	17. 23	228. 16	235. 10	22. 46	24. 38
Th.	25	24	18. 21	242. 20	249. 47	26. 13	27. 26
F.	26	25	19. 23	257. 30	265. 24	28. 16	28. 40
Sa.	27	26	20. 26	273. 27	281. 33	28. 35	28. 2
Sun.	28	27	21. 29	289. 39	297. 39	27. 0	25. 29

Days of the Week.	Days of the Month.	THE MOON'S Semidiameter.		Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*		
		M. S.	M. S.	M. S.	M. S.	*Noon.*	*Midn.*
M.	1	16. 43	16. 46	61. 22	61. 31	4673	4663
Tu.	2	16. 47	16. 47	61. 35	61. 34	4658	4659
W.	3	16. 45	16. 42	61. 29	61. 18	4665	4678
Th.	4	16. 38	16. 33	61. 3	60. 44	4696	4718
F.	5	16. 27	16. 20	60. 21	59. 56	4746	4776
Sa.	6	16. 13	16. 5	59. 29	59. 1	4809	4843
Sun.	7	15. 57	15. 49	58. 32	58. 2	4878	4916
M.	8	15. 41	15. 34	57. 34	57. 7	4951	4985
Tu.	9	15. 27	15. 20	56. 41	56. 17	5018	5049
W.	10	15. 14	15. 9	55. 55	55. 35	5077	5103
Th.	11	15. 4	15. 0	55. 17	55. 1	5127	5148
F.	12	14. 56	14. 53	54. 47	54. 36	5166	5181
Sa.	13	14. 50	14. 48	54. 26	54. 19	5194	5203
Sun.	14	14. 46	14. 45	54. 13	54. 9	5211	5217
M.	15	14. 45	14. 45	54. 7	54. 6	5219	5221
Tu.	16	14. 45	14. 45	54. 6	54. 8	5221	5218
W.	17	14. 46	14. 47	54. 11	54. 16	5214	5207
Th.	18	14. 49	14. 51	54. 22	54. 29	5199	5190
F.	19	14. 53	14. 55	54. 36	54. 46	5181	5167
Sa.	20	14. 58	15. 1	54. 56	55. 8	5154	5138
Sun.	21	15. 5	15. 9	55. 21	55. 36	5122	5102
M.	22	15. 13	15. 18	55. 52	56. 10	5081	5058
Tu.	23	15. 23	15. 29	56. 28	56. 49	5035	5008
W.	24	15. 35	15. 41	57. 10	57. 33	4981	4952
Th.	25	15. 47	15. 54	57. 56	58. 20	4923	4893
F.	26	16. 0	16. 7	58. 44	59. 9	4864	4833
Sa.	27	16. 14	16. 20	59. 33	59. 56	4804	4776
Sun.	28	16. 26	16. 31	60. 17	60. 35	4751	4729

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	IIIh.	VIh.	IXh.	*Midnight.*	XVh.	XVIIIh.	XXIh.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
	3	- - -	- - -	- - -	- - -	63. 42. 16	61. 49. 33	59. 57. 7	58. 4. 58
α Arietis.	4	56. 13. 8	54. 21. 37	52. 30. 28	50. 39. 42	48. 49. 18	46. 59. 19	45. 9. 47	43. 20. 42
	5	41. 32. 5	39. 43. 58	37. 56. 23	36. 9. 20	34. 22. 51			
	5	- - -	- - -	- - -	- - -	65. 43. 33	63. 57. 45	62. 12. 26	60. 27. 38
	6	58. 43. 20	56. 59. 33	55. 16. 20	53. 33. 39	51. 51. 32	50. 9. 59	48. 29. 2	46. 48. 41
Aldebaran.	7	45. 8. 57	43. 29. 50	41. 51. 24	40. 13. 39	38. 36. 36	37. 0. 13	35. 24. 40	33. 49. 58
	8	32. 16. 6	30. 43. 12	29. 11. 18	27. 40. 27	26. 10. 41			
	8	- - -	- - -	- - -	- - -	67. 34. 15	65. 56. 40	64. 19. 28	62. 42. 38
Pollux.	9	61. 6. 11	59. 30. 5	57. 54. 19	56. 18. 54	54. 43. 49	53. 9. 4	51. 34. 7	50. 0. 29
	10	48. 26. 39	46. 53. 6	45. 19. 50	43. 46. 50	42. 14. 8			
	10	- - -	- - -	- - -	- - -	79. 1. 55	77. 29. 21	75. 57. 1	74. 24. 56
	11	72. 53. 4	71. 21. 25	69. 49. 59	68. 18. 44	66. 47. 42	65. 16. 51	63. 46. 9	62. 15. 38
	12	60. 45. 16	59. 15. 3	57. 44. 58	56. 15. 1	54. 45. 12	53. 15. 31	51. 45. 56	50. 16. 28
Regulus.	13	48. 47. 7	47. 17. 51	45. 48. 40	44. 19. 33	42. 50. 32	41. 21. 35	39. 52. 41	38. 23. 51
	14	36. 55. 5	35. 26. 21	33. 57. 40	32. 29. 1	31. 0. 25	29. 31. 50	28. 3. 18	26. 34. 46
	15	25. 6. 16							
	15	79. 3. 35	77. 34. 54	76. 6. 13	74. 37. 32	73. 8. 50	71. 40. 8	70. 11. 24	68. 42. 39
Spica ♍.	16	67. 13. 53	65. 45. 4	64. 16. 14	62. 47. 21	61. 18. 27	59. 49. 29	58. 20. 29	56. 51. 26
	17	55. 22. 20	53. 53. 10	52. 23. 57	50. 54. 40	49. 25. 19	47. 55. 55	46. 26. 26	44. 56. 53

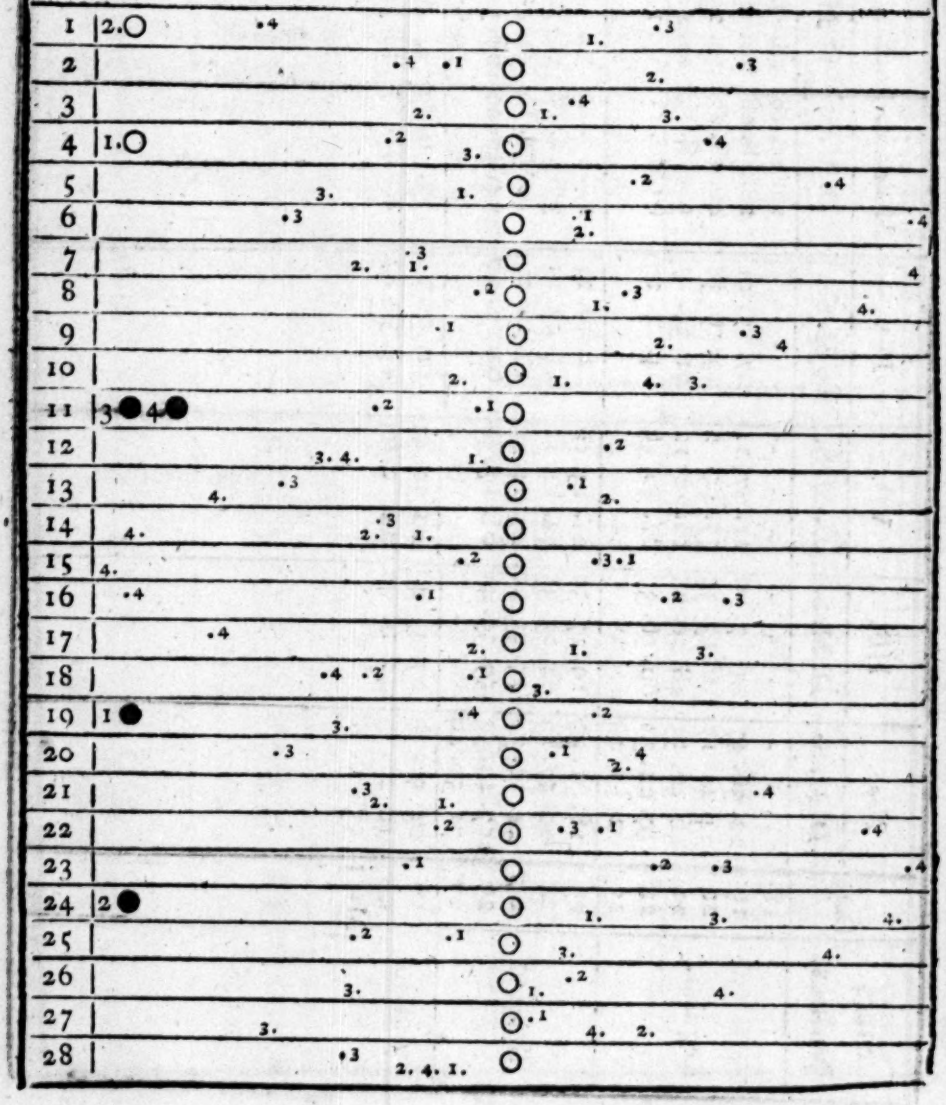
Stars Names.	Days	*Noon.*	III^{h}.	VI^{h}.	IX^{h}.	*Midnight.*	XV^{h}.	XVIII^{h}.	XXI^{h}.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Spica ♍.	18	43. 27. 16	41. 57. 34	40. 27. 46	38. 57. 54	37. 27. 56	35. 57. 53	34. 27. 45	32. 57. 31
	19	31. 27. 11	29. 56. 44	28. 26. 11	26. 55. 32	25. 24. 46	23. 53. 53	22. 22. 54	20. 51. 48
	20	19. 20. 35							
Antares,	20	65. 14. 12	63. 42. 47	62. 11. 15	60. 39. 34	59. 7. 44	57. 35. 45	56. 3. 37	54. 31. 19
	21	52. 58. 52	51. 26. 16	49. 53. 29	48. 20. 31	46. 47. 22	45. 14. 3	43. 40. 31	42. 6. 48
	22	40. 32. 53	38. 58. 45	37. 24. 24	35. 49. 49	34. 15. 1	32. 39. 59	31. 4. 43	29. 29. 13
	23	27. 53. 28							
α Aquilæ.	23	83. 12. 15	81. 52. 22	80. 32. 24	79. 12. 20	77. 52. 12	76. 32. 1	75. 11 50	73. 51. 39
	24	72. 31. 28	71. 11. 21	69. 51. 18	68. 31. 21	67. 11. 31			
The Sun.	22	- - -	- - -	- - -	- - -	120. 58. 41	119. 31. 13	118. 3. 30	116. 35. 32
	23	115. 7. 19	113. 38. 50	112. 10. 5	110. 41. 4	109. 11. 46	107. 42. 12	106. 12. 20	104. 42. 11
	24	103. 11. 44	101. 40. 59	100. 9. 55	98. 38. 31	97. 6. 49	95. 34. 47	94. 2. 25	92. 29. 42
	25	90. 56. 39	89. 23. 15	87. 49. 30	86. 15. 23	84. 40. 55	83. 6. 5	81. 30. 53	79. 55. 20
	26	78. 19. 24	76. 43. 6	75. 6. 26	73. 29. 24	71. 51. 59	70. 14. 11	68. 36. 1.	66. 57. 28
	27	65. 18. 34	63. 39. 17	61. 59. 38	60. 19. 38	58. 39. 16	56. 58. 33	55. 17. 29	53. 36. 5
	28	51. 54. 20	50. 12. 15	48. 29. 52	46. 47. 10	45. 4. 9	43. 20. 51	41. 37. 17	39. 53. 2
	M. 1	38. 9. 20							

DISTANCES of MOON's *Center* from SUN, and from STARS *WEST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
The Sun.	5	38. 13. 10	39. 54. 55	41. 36. 17	43. 17. 15	44. 57. 49	46. 37. 59	48. 17. 42	49. 57. 2
	6	51. 35. 56	53. 14. 24	54. 52. 27	56. 30. 2	58. 7. 12	59. 43. 55	61. 20. 11	62. 56. 1
	7	64. 31. 24	66. 6. 21	67. 40. 52	69. 14. 56	70. 48. 35	72. 21. 48	73. 54. 35	75. 26. 58
	8	76. 58. 55	78. 30. 27	80. 1. 36	81. 32. 21	83. 2. 42	84. 32. 41	86. 2. 18	87. 31. 33
	9	89. 0. 26	90. 28. 57	91. 57. 8	93. 24. 59	94. 52. 30	96. 19. 42	97. 46. 35	99. 13. 11
	10	100. 39. 28	102. 5. 28	103. 31. 12	104. 56. 41	106. 21. 53	107. 46. 51	109. 11. 35	110. 36. 4
	11	112. 0. 20	113. 24. 22	114. 48. 13	116. 11. 51	117. 35. 17	118. 58. 33	120. 21. 38	
∝ Arietis.	9	15. 8. 49	16. 37. 12	18. 6. 14	19. 35. 51	21. 5. 57	22. 36. 29	24. 7. 13	25. 38. 10
	10	27. 9. 20	28. 40. 20	30. 11. 19	31. 42. 16	33. 13. 12	34. 43. 59	36. 14. 40	37. 45. 15
	11	39. 15. 44	40. 46. 4	42. 16. 16	43. 46. 21	45. 16. 19	46. 46. 10	48. 15. 53	49. 45. 29
	12	51. 14. 57							
Aldebaran.	12	22. 6. 53	23. 26. 36	24. 47. 10	26. 8. 31	27. 30. 33	28. 53. 15	30. 16. 26	31. 40. 5
	13	33. 4. 13	34. 28. 34	35. 53. 10	37. 18. 1	38. 43. 8	40. 8. 23	41. 33. 47	42. 59. 21
	14	44. 25. 4	45. 50. 53	47. 16. 48	48. 42. 49	50. 8. 57	51. 35. 10	53. 1. 27	54. 27. 50
	15	55. 54. 17	57. 20. 49	58. 47. 24	60. 14. 4	61. 40. 48	63. 7. 36	64. 34. 27	66. 1. 22
	16	67. 28. 21							
Pollux.	16	23. 42. 6	25. 10. 34	26. 39. 5	28. 7. 41	29. 36. 20	31. 5. 3	32. 33. 51	34. 2. 42
	17	35. 31. 38	37. 0. 38	38. 29. 42	39. 58. 50	41. 28. 3	42. 57. 20	44. 26. 42	45. 56. 9
	18	47. 25. 40	48. 55. 17	50. 24. 58	51. 54. 45	53. 24. 38			

Stars Names.	Days	*Noon.*	III^{h}.	VI^{h}.	IX^{h}.	*Midnight.*	XV^{h}.	XVIII^{h}.	XXI^{h}.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Regulus.	18	- - -	- - -	- - -	- - -	16. 37. 18	18. 6. 58	19. 36. 46	21. 6. 42
	19	22. 36. 47	24. 7. 0	25. 37. 21	27. 7. 51	28. 38. 28	30. 9. 13	31. 40. 6	33. 11. 7
	20	34. 42. 17	36. 13. 35	37. 45. 2	39. 16. 38	40. 48. 23	42. 20. 16	43. 52. 20	45. 24. 32
	21	46. 56. 55	48. 29. 28	50. 2. 12	51. 35. 7	53. 8. 13	54. 41. 29	56. 14. 58	57. 48. 38
	22	59. 22. 31	60. 56. 37	62. 30. 56	64. 5. 29	65. 40. 15	67. 15. 15	68. 50. 29	70. 25. 57
	23	72. 1. 40							
Spica ♍.	23	18. 1. 39	19. 37. 38	21. 13. 52	22. 50. 24	24. 27. 12	26. 4. 17	27. 41. 40	29. 19. 21
	24	30. 57. 19	32. 35. 35	34. 14. 11	35. 53. 5	37. 32. 18	39. 11. 51	40. 51. 44	42. 31. 57
	25	44. 12. 31	45. 53. 26	47. 34. 42	49. 16. 20	50. 58. 19	52. 40. 40	54. 23. 22	56. 6. 27
	26	57. 49. 53	59. 33. 41	61. 17. 52	63. 2. 25	64. 47. 20	66. 32. 38	68. 18. 19	70. 4. 22
	27	71. 50. 49							
Antares.	27	25. 56. 57	27. 43. 43	29. 30. 51	31. 18. 21	33. 6. 13	34. 54. 26	36. 42. 59	38. 31. 53
	28	40. 21. 7	42. 10. 42	44. 0. 35	45. 50. 47	47. 41. 17	49. 32. 6	51. 23. 11	53. 14. 31
	M. 1	55. 6. 8							

CONFIGURATIONS of the SATELLITES of JUPITER at X o'Clock in the *Evening*.



Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
M.	1	David.
Tu.	2	Chad.
W.	3	*Aſh Wedneſday.*
Th.	4	
F.	5	
Sa.	6	
Sun.	7	*1ſt Su. in Lent.* Perpetua.
M.	8	
Tu.	9	
W.	10	
Th.	11	
F.	12	Gregory, M.
Sa.	13	
Sun.	14	*2d Sunday in Lent.*
M.	15	
Tu.	16	
W.	17	
Th.	18	Edward K. of Weſt-Sax.
F.	19	
Sa.	20	
Sun.	21	*3d Sun. in Lent.* Benedict.
M.	22	
Tu.	23	
W.	24	
Th.	25	*Annun. of B. V. Mary.*
F.	26	
Sa.	27	
Sun.	28	*4th Su. in Lent. Midl. Su.*
M.	29	
Tu.	30	
W.	31	

Phaſes of the MOON.

	D.	H.	M.
● New Moon	3.	16.	55
☽ *Firſt Quarter*	10.	18.	24
○ Full Moon	18.	23.	15
☾ *Laſt Quarter*	26.	11.	7

Other *Phenomena.*

D.	H.	M.	
2.	-	-	☿ Stationary.
3.	-	-	☉ eclipſed, inviſible,
8.	23.	17	☽ ♑ Pleiadum.
10.	18.	2	☽ β ♉
11.	15.	9	☽ ϰ Aurigæ.
12.	22.	12	☽ ♊
13.	19.	1	☽ ☌ ♄ ♋
14.	11.	55½	I. γ ♋, ✱ 2′¾S. of ☽ 's C
14.	13.	4¼	E. 3′¾N.
16.	10.	40	☽ ♃
16.	19.	49	☽ ♄
17.	14.	42	☽ ☍ ☊
18.	4.	37	☽ ☍ ☊
18.	15.	43	☽ β ♍
18.	-	-	☽ eclipſed, inviſible.
20.	19.	35	☉ enters ♈
20.	19.	44	☽ α ♍
23.	20.	33	☽ π ♏
24.	8.	52	☽ α ♏
24.	11.	54	☽ τ ♏
25.	6.	9	☽ 43 Ophiuchi.
26.	-	-	☿ Stationary.
26.	4.	36	☽ ☌ ♐
26.	22.	15	☽ τ ♐
29.	12.	4	☽ γ ♒
29.	14.	57	☽ ☌ ♒
29.	22.	14	☽ ☌ ♂
29.	23.	28	☽ ι ♒
30.	20.	29	☽ λ ♒

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Ascen. *in Time.*	Declin. *South.*	Equation of Time. *Add.*	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
M.	1	11. 10. 14. 48	22. 47. 4, 3	7. 44. 5	12. 45, 2	11, 9
Tu.	2	11. 11. 14. 56	22. 50. 48, 8	7. 21. 16	12. 33, 3	12, 5
W.	3	11. 12. 15. 3	22. 54. 32, 9	6. 58. 22	12. 20, 8	13, 0
Th.	4	11. 13. 15. 8	22. 58. 16, 4	6. 35. 21	12. 7, 8	13, 4
F.	5	11. 14. 15. 11	23. 1. 59, 5	6. 12. 15	11. 54. 4	13, 9
Sa.	6	11. 15. 15. 11	23. 5. 42, 2	5. 49. 4	11. 40, 5	14, 3
Sun.	7	11. 16. 15. 10	23. 9. 24, 4	5. 25. 48	11. 26, 2	14, 7
M.	8	11. 17. 15. 7	23. 13. 6, 2	5. 2, 28	11. 11, 5	15, 1
Tu.	9	11. 18. 15. 1	23, 16. 47, 6	4. 39. 4	10. 56, 4	15, 5
W.	10	11. 19. 14. 53	23. 20. 28, 6	4. 15. 37	10. 40, 9	15, 9
Th.	11	11. 20. 14. 43	23. 24. 9, 3	3. 52. 7	10. 25, 0	16, 2
F.	12	11. 21. 14. 31	23. 27. 49, 5	3. 28. 34	10. 8, 8	16, 6
Sa.	13	11. 22. 14. 16	23. 31. 29, 5	3. 4. 59	9. 52, 2	16, 8
Sun.	14	11. 23. 13. 59	23. 35. 9, 2	2. 41. 22	9. 35, 4	17, 1
M.	15	11. 24. 13. 40	23. 38. 48, 5	2. 17. 43	9. 18, 3	17, 4
Tu.	16	11. 25. 13. 18	23. 42. 27, 7	1. 54. 3	9. 0, 9	17, 7
W.	17	11. 26. 12. 54	23. 46. 6, 5	1. 30. 23	8. 43, 2	17, 8
Th.	18	11. 27. 12. 28	23. 49. 45, 2	1. 6. 42	8. 25, 4	18, 0
F.	19	11. 28. 11. 59	23. 53. 23, 7	0. 43. 0	8. 7, 4	18, 2
Sa.	20	11. 29. 11. 29	23. 57. 2, 0	0. 19. 19	7. 49, 2	18, 3
				North.		
Sun.	21	0. 0. 10. 57	0. 0. 40, 2	0. 4. 22	7. 30, 9	18, 5
M.	22	0. 1. 10. 23	0. 4. 18, 3	0. 28. 2	7. 12, 4	18, 5
Tu.	23	0. 2. 9. 48	0. 7. 56, 2	0. 51. 40	6. 53, 9	18, 5
W.	24	0. 3. 9. 10	0. 11. 34, 2	1. 15. 18	6. 35, 4	18, 6
Th.	25	0. 4. 8. 31	0. 15. 12, 1	1. 38. 53	6. 16, 8	18, 7
F.	26	0. 5. 7. 50	0. 18. 50, 0	2. 2. 27	5. 58, 1	18, 6
Sa.	27	0. 6. 7. 7	0. 22. 27, 9	2. 25. 58	5. 39, 5	18, 6
Sun.	28	0. 7. 6. 23	0. 26. 5, 7	2. 49. 26	5. 20, 9	18, 6
M.	29	0. 8. 5. 37	0. 29. 43, 7	3. 12. 50	5. 2, 3	18, 5
Tu.	30	0. 9. 4. 49	0. 33. 21, 7	3. 36. 11	4. 43, 8	18, 4
W.	31	0. 10. 3. 59	0. 36. 59, 7	3. 59. 29	4. 25, 4	

Days	Time of ☉'s Semidiam. passg Merid.	THE SUN's Semi-diameter	Hourly Motion.	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 5, 3	16. 11, 0	2. 30, 3	9. 996329	11. 21, 26
7	1. 4, 9	16. 9, 5	2. 29, 8	9. 997008	11. 21. 7
13	1. 4, 6	16. 7, 9	2. 29, 3	9. 997699	11. 20. 48
19	1. 4, 4	16. 6, 2	2. 28, 9	9. 998422	11. 20. 29
25	1. 4, 3	16. 4, 6	2. 28, 5	9. 999185	11. 20. 10

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite.		II. Satellite.		III. Satellite.	
Emersions.		*Emersions.*			
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.
2	1. 42. 23	* 3	14. 42. 13	4	19. 34. 39 Im.
3	20. 11. 18	7	4. 1. 17	4	22. 58. 48 E.
* 5	14. 40. 11	10	17. 20. 29	11	23. 35. 16 Im.
* 7	9. 9. 9	*14	6. 39. 49	12	2. 58. 54 E.
9	3. 38. 6	17	19. 59. 17	19	3. 36. 15 Im.
10	22. 7. 8	*21	9. 18. 46	*19	6. 59. 20 E.
*12	16. 36. 8	24	22. 38. 20	*26	7. 37. 27 Im.
*14	11. 5. 13	*28	11. 58. 0	*26	10. 59. 58 E.
16	5. 34. 14				
18	0. 3. 20				
19	18. 32. 25				
*21	13. 1. 32				
*23	7. 30. 38				
25	1. 59. 46				
26	20. 28. 55				
*28	14. 58. 4				
*30	9. 27. 11				

IV. Satellite.	
16	17. 42. 29 Im.
16	22. 16. 43 E.

Days	THE PLANETS Heliocentric Long.	Heliocentric Lat.	Geocentric Long.	Geocentric Lat.	Declin.	Passage Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
	☿	*MERCURY.*			Inf. ☌ 12d 8h½.	
1	3.24.41	6.31 N	11.26.43	2.36 N	1. 5 N	0.57
4	4.11.40	6.59	11.26.58	3.10	1.42	0.45
7	4.27.15	6.52	11.25.53	3.32	1.37	0.30
10	5.11.24	6.20	11.23.44	3.38	0.51 N	0.11
13	5.24.15	5.30	11.20.59	3.26	0.25 S	23.43
16	6. 5.58	4.31	11.18.11	2.58	1.56	23.23
19	6.16.44	3.26	11.15.51	2.19	3.27	23. 6
22	6.26.44	2.19	11.14.16	1.34	4.45	22.51
25	7. 6. 8	1.12	11.13.34	0.48	5.44	22.40
28	7.15. 6	0. 7 N	11.13.44	0. 4 N	6.20	22.32
31	7.23.42	0.57 S	11.14.42	0.35 S	6.34	22.26
	♀	*VENUS.*			Sup. ☌ 17d 11h½.	
1	11. 0.33	3.17 S	11. 6. 9	1.24 S	19.34 S	23.48
7	11.10. 3	3.23	11.13.38	1.26	7.46	23.53
13	11.19.34	3.23	11.21. 7	1.26	4.50	23.59
19	11.29. 6	3.17	11.28.35	1.23	1.50 S	0. 4
25	0. 8.39	3. 6	0. 6. 2	1.18	1.12 N	0. 9
	♂	*MARS.*				
1	9. 8.16	1.25 S	10. 3. 2	0.58 S	20.27 S	21.35
7	9.11.50	1.29	10. 7.37	1. 2	19.23	21.31
13	9.15.25	1.33	10.12.12	1. 5	18.12	21.28
19	9.19. 2	1.37	10.16.48	1. 9	16.55	21.25
25	9.22.41	1.40	10.21.25	1.12	15.31	21.21
	♃	*JUPITER.*				
1	5. 1.35	1. 3 N	4.29.38	1.17 N	12.49 N	11.20
7	5. 2. 3	1. 3	4.28.53	1.17	13. 4	10.55
13	5. 2.30	1. 4	4.28.12	1.17	13.19	10.30
19	5. 2.58	1. 4	4.27.34	1.16	13.32	10. 6
25	5. 3.26	1. 4	4.27. 1	1.16	13.43	9.42
	♄	*SATURN.*				
1	5. 4.17	1.41 N	5. 3.34	1.53 N	11.58 N	11.36
7	5. 4.30	1.42	5. 3. 6	1.54	12. 9	11.12
13	5. 4.42	1.42	5. 2.39	1.54	12.19	10.48
19	5. 4.55	1.42	5. 2.13	1.54	12.28	10.25
25	5. 5. 8	1.43	5. 1.50	1.53	12.36	10. 1
	♅	*GEORGIAN.*			8 25d 22h½.	
1	6. 4.44	0.43 N	6. 6. 6	0.45 N	1.44 S	13.34
11	6. 4.52	0.43	6. 5.42	0.45	1.34	12.56
21	6. 5. 0	0.43	6. 5.16	0.45	1.24	12.18

Days of the Week.	Days of the Month.	THE MOON's Longitude. Noon.	Longitude. Midnight.	Latitude. Noon.	Latitude. Midnight.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
M.	1	10. 2.15.56	10. 9.44.37	3.57.17 S	3.27.54 S
Tu.	2	10.17.15.47	10.24.48.17	2.54.46	2.18.27
W.	3	11. 2.21. 1	11. 9.52.49	1.39.40	0.59.13 S
Th.	4	11.17.22.35	11.24.49.14	0.17.54 S	0.23.26 N
F.	5	0. 2.11.48	0. 9.29.25	1. 4. 2 N	1.43. 7
Sa.	6	0.16.41.22	0.23.47.10	2.20. 3	2.54.17
Sun.	7	1. 0.46.30	1. 7.39. 7	3.25.20	3.52.56
M.	8	1.14.25. 4	1.21. 4.24	4.16.46	4.36.44
Tu.	9	1.27.37.23	2. 4. 4.21	4.52.44	5. 4.46
W.	10	2.10.25.42	2.16.41.53	5.12.53	5.17. 7
Th.	11	2.22.53.28	2.29. 0.57	5.17.37	5.14.28
F.	12	3. 5. 4.53	3.11. 5.52	5. 7.50	4.57.52
Sa.	13	3.17. 4.25	3.23. 1. 7	4.44.44	4.28.36
Sun.	14	3.28.56.27	4. 4.50.59	4. 9.40	3.48. 6
M.	15	4.10.45. 8	4.16.39.24	3.24. 8	2.57.58
Tu.	16	4.22.34.11	4.28.29.51	2.29.53	2. 0. 5
W.	17	5. 4.26.48	5.10.25.19	1.28.53	0.56.35 N
Th.	18	5.16.25.41	5.22.28.10	0.23.29 N	0.10. 4 S
F.	19	5.28.32.58	6. 4.40.19	0.43.42 S	1.17. 4
Sa.	20	6.10.50.20	6.17. 3.15	1.49.44	2.21.22
Sun.	21	6.23.19. 8	6.29.38.10	2.51.32	3.19.51
M.	22	7. 6. 0.29	7.12.26.10	3.45.55	4. 9.21
Tu.	23	7.18.55.23	7.25.28.12	4.29.47	4.46.54
W.	24	8. 2. 4.46	8. 8.45.10	5. 0.24	5. 9.58
Th.	25	8.15.29.26	8.22.17.40	5.15.24	5.16.28
F.	26	8.29. 9.53	9. 6. 6. 3	5.13. 4	5. 5. 4
Sa.	27	9.13. 6.10	9.20.10. 2	4.52.31	4.35.25
Sun.	28	9.27.17.32	10. 4.28.23	4.13.58	3.48.21
M.	29	10.11.42.16	10.18.58.43	3.18.56	2.46. 7
Tu.	30	10.26.17.14	11. 3.37.12	2.10.28	1.32.32
W.	31	11.10.57.56	11.18.18.39	0.53. 1	0.12.39

Days of the Week.	Days of the Month.	THE MOON's Age.	Passage Merid.	Right Ascension.		Declination.	
				Noon.	*Midnight.*	*Noon.*	*Midnight.*
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
M.	1	28	22. 28	305. 31	313. 11	23. 32 S	21. 10 S
Tu.	2	29	23. 24	320. 39	327. 54	18. 27	15. 26
W.	3	1	♂	334. 56	341. 48	12. 12	8. 48
Th.	4	2	0. 16	348. 30	355. 5	5. 16 S	1. 42 S
F.	5	3	1. 7	1. 35	8. 2	1. 51 N	5. 21 N
Sa.	6	4	1. 56	14. 28	20. 55	8. 43	11. 56
Sun.	7	5	2. 46	27. 25	33. 58	14. 58	17. 45
M.	8	6	3. 37	40. 36	47. 19	20. 16	22. 29
Tu.	9	7	4. 29	54. 8	61. 1	24. 24	25. 58
W.	10	8	5. 23	67. 58	74. 57	27. 12	28. 4
Th.	11	9	6. 17	81. 56	88. 53	28. 34	28. 42
F.	12	10	7. 10	95. 46	102. 32	28. 30	27. 57
Sa.	13	11	8. 1	109. 11	115. 41	27. 5	25. 55
Sun.	14	12	8. 49	122. 1	128. 12	24. 28	22. 46
M.	15	13	9. 35	134. 12	140. 4	20. 50	18. 41
Tu.	16	14	10. 18	145. 47	151. 22	16. 22	13. 53
W.	17	15	10. 59	156. 52	162. 17	11. 16	8. 32
Th.	18	16	11. 40	167. 40	173. 1	5. 43 N	2. 50 N
F.	19	17	12. 21	178. 23	183. 46	0. 5 S	3. 2 S
Sa.	20	18	13. 2	189. 14	194. 48	5. 59	8. 53
Sun.	21	19	13. 46	200. 30	206. 21	11. 43	14. 28
M.	22	20	14. 34	212. 23	218. 38	17. 5	19. 32
Tu.	23	21	15. 26	225. 8	231. 53	21. 47	23. 47
W.	24	22	16. 22	238. 53	246. 8	25. 30	26. 53
Th.	25	23	17. 21	253. 36	261. 16	27. 54	28. 31
F.	26	24	18. 23	269. 3	276. 55	28. 41	28. 24
Sa.	27	25	19. 24	284. 47	292. 35	27 40	26. 29
Sun.	28	26	20. 22	300. 16	307. 48	24. 52	22. 51
M.	29	27	21. 18	315. 9	322. 19	20. 29	17. 47
Tu.	30	28	22. 10	329. 18	336. 6	14. 49	11. 38
W.	31	29	23. 1	342 47	349. 20	8. 17	4. 49

Days of the Week.	Days of the Month.	The Moon's Semidiameter.		The Moon's Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*	*Noon.*	*Midn.*
		M. S.	M. S.	M. S.	M. S.		
M.	1	16. 35	16. 38	60. 51	61. 2	4710	4697
Tu.	2	16. 40	16. 41	61. 11	61. 15	4686	4682
W.	3	16. 41	16. 40	61. 14	61. 9	4683	4689
Th.	4	16. 37	16. 33	60. 59	60. 45	4700	4717
F.	5	16. 28	16. 22	60. 27	60. 5	4739	4765
Sa.	6	16. 16	16. 9	59. 41	59. 15	4794	4826
Sun.	7	16. 1	15. 53	58. 47	58. 18	4860	4896
M.	8	15. 46	15. 38	57. 50	57. 22	4931	4966
Tu.	9	15. 30	15. 23	56. 54	56. 28	5002	5035
W.	10	15. 17	15. 11	56. 4	55. 42	5065	5094
Th.	11	15. 6	15. 1	55. 23	55. 5	5119	5142
F.	12	14. 57	14. 53	54. 51	54. 38	5161	5178
Sa.	13	14. 51	14. 49	54. 29	54. 22	5190	5199
Sun.	14	14. 47	14. 46	54. 16	54. 13	5207	5211
M.	15	14. 46	14. 46	54. 12	54. 13	5213	5211
Tu.	16	14. 47	14. 48	54. 16	54. 20	5207	5202
W.	17	14. 50	14. 52	54. 26	54. 33	5194	5185
Th.	18	14. 54	14. 57	54. 41	54. 51	5174	5161
F.	19	15. 0	15. 3	55. 2	55. 13	5146	5132
Sa.	20	15. 6	15. 10	55. 25	55. 38	5116	5099
Sun.	21	15. 13	15. 17	55. 52	56. 6	5081	5063
M.	22	15. 21	15. 25	56. 21	56. 36	5044	5025
Tu.	23	15. 30	15. 34	56. 52	57. 8	5004	4984
W.	24	15. 39	15. 43	57. 25	57. 42	4962	4941
Th.	25	15. 48	15. 53	58. 0	58. 17	4918	4897
F.	26	15. 58	16. 3	58. 35	58. 53	4875	4853
Sa.	27	16. 7	16. 12	59. 10	59. 26	4832	4812
Sun.	28	16. 16	16. 20	59. 42	59. 55	4793	4777
M.	29	16. 23	16. 26	60. 7	60. 17	4763	4751
Tu.	30	16. 28	16. 29	60. 24	60. 28	4742	4737
W.	31	16. 29	16. 28	60. 29	60. 26	4736	4740

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Aldebaran.	5	65. 4. 4	63. 16. 4	61. 28. 30	59. 41. 20	57. 54. 38	56. 8. 23	54. 22. 39	52. 37. 26
	6	50. 52. 43	49. 8. 32	47. 24. 58	45. 42. 0	43. 59. 38	42. 17. 54	40. 36. 53	38. 56. 37
	7	37. 17. 6	35. 38. 19	34. 0. 28	32. 23. 35	30. 47. 40	29. 12. 53	27. 39. 16	26. 6. 53
	8	24. 35. 49							
Pollux.	8	65. 46. 46	64. 6. 33	62. 26. 46	60. 47. 25	59. 8. 29	57. 29. 59	55. 51. 53	54. 14. 11
	9	52. 36. 53	51. 0. 0	49. 23. 30	47. 47. 23	46. 11. 39	44. 36. 17	43. 1. 16	41. 26. 36
	10	39. 52. 17							
Regulus.	10	76. 40. 25	75. 6. 20	73. 32. 34	71. 59. 7	70. 25. 57	68. 53. 5	67. 20. 30	65. 48. 11
	11	64. 16. 8	62. 44. 21	61. 12. 48	59. 41. 29	58. 10. 24	56. 39. 32	55. 8. 52	53. 38. 24
	12	52. 8. 7	50. 38. 1	49. 8. 4	47. 38. 17	46. 8. 39	44. 39. 10	43. 9. 49	41. 40. 35
	13	40. 11. 29	38. 42. 28	37. 13. 33	35. 44. 43	34. 15. 59	32. 47. 19	31. 18. 43	29. 50. 11
	14	28. 21. 42	26. 53. 16	25. 24. 52	23. 56. 31	22. 28. 11			
Spica ♍	14	- - -	- - -	- - -	- - -	76. 25. 3	74. 56. 31	73. 27. 58	71. 59. 24
	15	70. 30. 49	69. 2. 13	67. 33. 34	66. 4. 52	64. 36. 9	63. 7. 22	61. 38. 32	60. 9. 38
	16	58. 40. 41	57. 11. 39	55. 42. 33	54. 13. 21	52. 44. 5	51. 14. 43	49. 45. 14	48. 15. 40
	17	46. 45. 59	45. 16. 12	43. 46. 17	42. 16. 16	40. 46. 8	39. 15. 53	37. 45. 30	36. 14. 59
	18	34. 44. 21	33. 13. 34	31. 42. 39	30. 11. 36	28. 40. 24	27. 9. 4	25. 37. 35	24. 5. 58
	19	22. 34. 12							

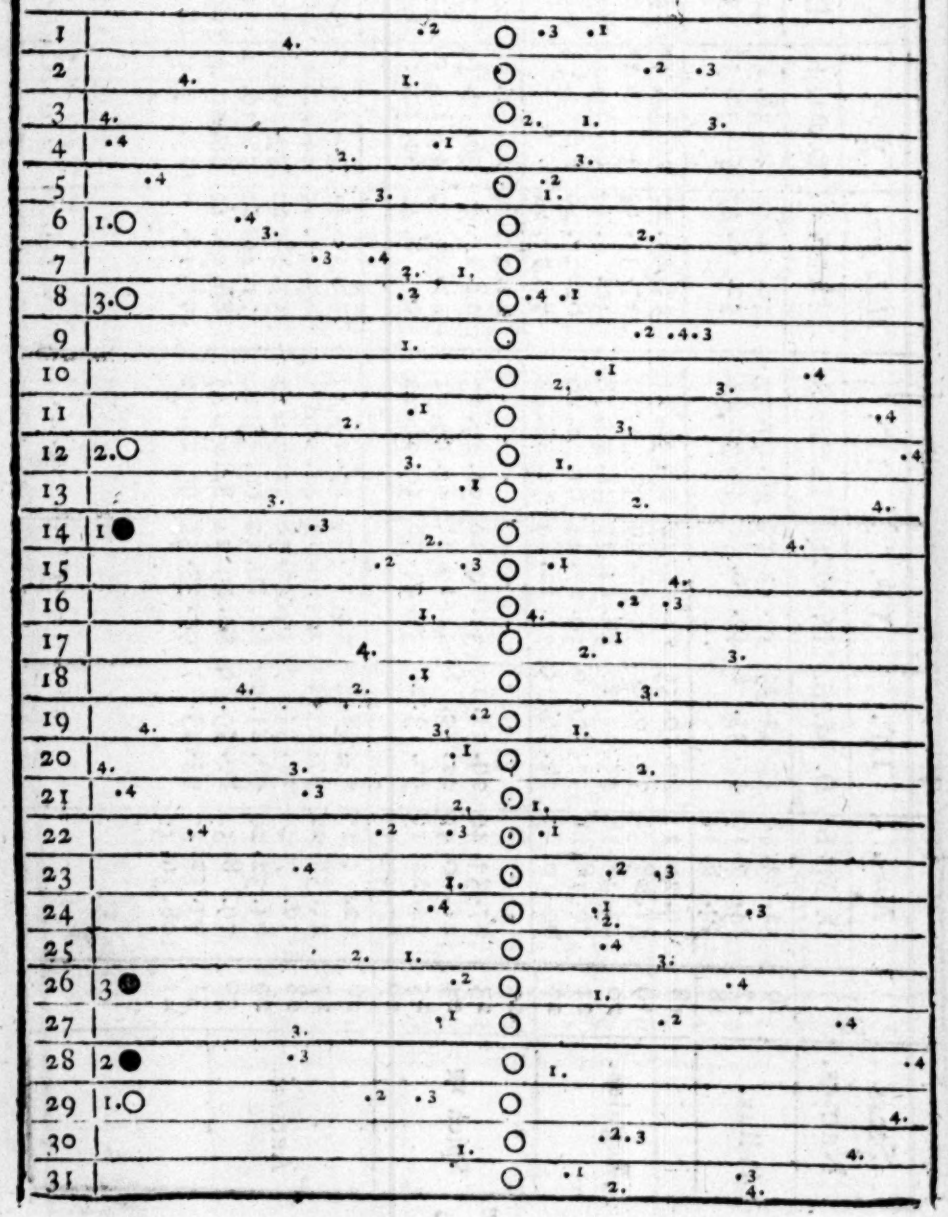
Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M. S.	D. M. S.	D. M. S.
Antares.	19	68. 27. 57	66. 55. 59	65. 23. 52	63. 51. 35	62. 19. 10	60. 46. 35	59. 13. 51	57. 40. 57
	20	56. 7. 53	54. 34. 38	53. 1. 14	51. 27. 39	49. 53. 54	48. 20. 0	46. 45. 55	45. 11. 40
	21	43. 37. 15	42. 2. 39	40. 27. 52	38. 52. 54	37. 17. 45	35. 42. 26	34. 6. 55	32. 31. 14
	22	30. 55. 22							
α Aquilæ.	22	85. 43. 57	84. 23. 52	83. 3. 42	81. 43. 28	80. 23. 11	79. 2. 53	77. 42. 35	76. 22. 19
	23	75. 2. 6	73. 41. 56	72. 21. 54	71. 1. 59	69. 42. 13	68. 22. 39	67. 3. 17	65. 44. 9
	24	64. 25. 18							
Fomalhaut.	24	87. 15. 33	85. 41. 45	84. 7. 45	82. 33. 35	80. 59. 14	79. 24. 43	77. 50. 3	76. 15. 14
	25	74. 40. 17	73. 5. 10	71. 29. 58	69. 54. 38	68. 19. 13	66. 43. 42	65. 8. 8	63. 32. 31
	26	61. 56. 53	60. 21. 15	58. 45. 38	57. 10. 2	55. 34. 31			
The Sun.	24	120. 56. 30	119. 24. 31	117. 52. 18	116. 19. 52	114. 47. 12	113. 14. 18	111. 41. 10	110. 7. 48
	25	108. 34. 12	107. 0. 21	105. 26. 15	103. 51. 54	102. 17. 19	100. 42. 29	99. 7. 24	97. 32. 3
	26	95. 56. 28	94. 20. 37	92. 44. 31	91. 8. 10	89. 31. 33	87. 54. 40	86. 17. 31	84. 40. 7
	27	83. 2. 28	81. 24. 34	79. 46. 26	78. 8. 2	76. 29. 23	74. 50. 29	73. 11. 20	71. 31. 56
	28	69. 52. 18	68. 12. 26	66. 32. 20	64. 52. 0	63. 11. 27	61. 30. 41	59. 49. 43	58. 8. 32
	29	56. 27. 10	54. 45. 36	53. 3. 53	51. 21. 59	49. 39. 55	47. 57. 41	46. 15. 20	44. 32. 51
	30	42. 50. 15	41. 7. 33	39. 24. 45					

DISTANCES of MOON's *Center* from SUN, and from STARS *WEST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Antares.	1	55. 6. 7	56. 57. 58	58. 50. 1	60. 42. 17	62. 34. 46	64. 27. 27	66. 20. 17	68. 13. 17
	2	70. 6. 25	71. 59. 40	73. 53. 0	75. 46. 25	77. 39. 53			
The Sun.	6	- - -	- - -	- - -	- - -	38. 7. 37	39. 45. 47	41. 23. 30	43. 0. 45
	7	44. 37. 34	46. 13. 56	47. 49. 51	49. 25. 20	51. 0. 22	52. 34. 58	54. 9. 8	55. 42. 51
	8	57. 16. 8	58. 48. 58	60. 21. 23	61. 53. 22	63. 24. 55	64. 56. 3	66. 26. 47	67. 57. 7
	9	69. 27. 3	70. 56. 35	72. 25. 44	73. 54. 31	75. 22. 56	76. 50. 58	78. 18. 40	79. 46. 1
	10	81. 13. 1	82. 39. 42	84. 6. 4	85. 32. 7	86. 57. 52	88. 23. 19	89. 48. 31	91. 13. 26
	11	92. 38. 4	94. 2. 28	95. 26. 37	96. 50. 33	98. 14. 15	99. 37. 43	101. 1. 0	102. 24. 5
	12	103. 46. 58	105. 9. 42	106. 32. 16	107. 54. 41	109. 16. 57	110. 39. 4	112. 1. 4	113. 22. 56
	13	114. 44. 42	116. 6. 22	117. 27. 57	118. 49. 27	120. 10. 53			
α Arietis.	10	- - -	- - -	- - -	- - -	41. 40. 15	43. 11. 57	44. 43. 26	46. 14. 43
	11	47. 45. 47	49. 16. 39	50. 47. 19	52. 17. 48	53. 48. 5	55. 18. 11	56. 48. 7	58. 17. 54
	12	59. 47. 31	61. 16. 59	62. 46. 18	64. 15. 29	65. 44. 32	67. 13. 27	68. 42. 16	70. 10. 59
	13	71. 39. 35							
Aldebaran.	13	41. 16. 54	42. 42. 34	44. 8. 19	45. 34. 9	47. 0. 4	48. 26. 3	49. 52. 6	51. 18. 13
	14	52. 44. 24	54. 10. 38	55. 36. 56	57. 3. 18	58. 29. 44	59. 56. 13	61. 22. 46	62. 49. 24
	15	64. 16. 5	65. 42. 51	67. 9. 41	68. 36. 36	70. 3. 36	71. 30. 41	72. 57. 50	74. 25. 5
	16	75. 52. 26							

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Pollux.	16	32. 13. 48	33. 42. 39	35. 11. 35	36. 40. 37	38. 9. 45	39. 38. 59	41. 8. 19	42. 37. 46
	17	44. 7. 19	45. 37. 0	47. 6. 48	48. 36. 44	50. 6. 47	51. 36. 58	53. 7. 16	54. 37. 41
	18	56. 8. 15							
Regulus.	18	19. 20. 24	20. 50. 53	22. 21. 32	23. 52. 21	25. 23. 20	26. 54. 30	28. 25. 49	29. 57. 19
	19	31. 28. 59	33. 0. 49	34. 32. 49	36. 4. 59	37. 37. 19	39. 9. 48	40. 42. 27	42. 15. 17
	20	43. 48. 16	45. 21. 26	46. 54. 47	48. 28. 18	50. 1. 59	51. 35. 50	53. 9. 51	54. 44. 3
	21	56. 18. 26	57. 53. 0	59. 27. 44	61. 2. 40	62. 37. 46	64. 13. 4	65. 48. 32	67. 24. 12
	22	69. 0. 3	70. 36. 5	72. 12. 19	73. 48. 44	75. 25. 20			
Spica ♍	22	- - -	- - -	- - -	- - -	21. 25. 10	23. 1. 59	24. 39. 0	26. 16. 14
	23	27. 53. 40	29. 31. 19	31. 9. 10	32. 47. 13	34. 25. 30	36. 3. 59	37. 42. 41	39. 21. 36
	24	41. 0. 45	42. 40. 8	44. 19. 45	45. 59. 35	47. 39. 39	49. 19. 56	51. 0. 28	52. 41. 13
	25	54. 22. 13	56. 3. 28	57. 44. 58	59. 26. 42	61. 8. 42	62. 50. 57	64. 33. 26	66. 16. 11
	26	67. 59. 11							
Antares.	26	22. 5. 17	23. 48. 30	25. 31. 59	27. 15. 43	28. 59. 44	30. 44. 0	32. 28. 32	34. 13. 19
	27	35. 58. 22	37. 43. 40	39. 29. 13	41. 15. 1	43. 1. 5	44. 47. 24	46. 33. 58	48. 20. 46
	28	50. 7. 49	51. 55. 7	53. 42. 38	55. 30. 22	57. 18. 20	59. 6. 32	60. 54. 56	62. 43. 32
	29	64. 32. 20	66. 21. 20	68. 10. 30	69. 59. 50	71. 49. 21	73. 39. 2	75. 28. 51	77. 18. 49
	30	79. 8. 54	80. 59. 6	82. 49. 24	84. 39. 47	86. 30. 15	88. 20. 47	90. 11. 22	92. 1. 58
	31	93. 52. 37	95. 43. 17	97. 33. 55	99. 24. 32	101. 15. 8	103. 5. 41	104. 56. 9	106. 46. 33
	A. 1	108. 36. 52							

CONFIGURATIONS of the SATELLITES of JUPITER at X o'Clock in the *Evening*.



Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
Th.	1	
F.	2	
Sa.	3	Richd. Bp. of Chicheſter.
Sun.	4	*5th Su. in Lent.* St. Amb-
M.	5	[roſe.
Tu.	6	
W.	7	
Th.	8	
F.	9	Camb. Term ends.
Sa.	10	Oxford Term ends.
Sun.	11	*Palm-Sunday.*
M.	12	
Tu.	13	
W.	14	
Th.	15	
F.	16	*Good-Friday.*
Sa.	17	
Sun.	18	*Eaſter-Day.*
M.	19	*Eaſter-Monday.* Alphege.
Tu.	20	*Eaſter-Tueſday.*
W.	21	
Th.	22	
F.	23	St. George.
Sa.	24	
Sun.	25	*1ſt. Su. aft. E. Low-Sun.*
M.	26	[*St. Mark. Prs. Mary b.*
Tu.	27	
W.	28	Oxf.& Camb.Terms beg.
Th.	29	
F.	30	

Phaſes of the MOON.

	D. H. M.
● New Moon - - - - -	2. 3. 15
☽ *Firſt Quarter* - - - -	9. 12. 25
○ Full Moon - - - - -	17. 14. 35
☾ *Laſt Quarter* - - - -	24. 17. 45

Other *Phenomena.*

D. H. M.

5. 9. 55 I. of η Plei. ✱ $12'\frac{1}{4}$ S of ☽'s C
5. 10. 29¾ E. $10'\frac{1}{2}$
N. B. ☽ occults others of the Pleia.
7. 2. 39 ☽ β ♉
7. 23. 20 ☽ ϰ Aurigæ.
9. 5. 56 ☽ ι ♊
10. 19. 21 ☽ γ ♋
12. 14. 29¼ I. of ♃, ✱ $5'\frac{1}{2}$ S. of ☽'s C.
12. 15. 23½ E. $1'\frac{2}{3}$
13. 0. 23 ☽ ♄
13. 22. 13 ☽ χ ☊
14. 11. 37 I. of τ ☊, ✱ $0'\frac{1}{2}$ S
14. 12. 48⅓ E. $6'\frac{1}{4}$ N of ☽'s C
14. 23. 13 ☽ β ♍
16. - - ☌ λ ♐, ✱ 58′ North.
17. 2. 50 ☽ α ♍
20. 2. 34 ☽ π ♏
20. 8. 15 ☉ enters ♉
20. 14. 42 ☽ α ♏
20. 17. 42 ☽ τ ♏
21. 11. 47 ☽ 43 Ophiuchi.
22. - - ♃ Stationary.
22. 19. 48 ☽ φ ♐
23. 3. 49 ☽ τ ♐
23. - - ☌ φ ♐, ✱ $21'\frac{1}{2}$ North.
25. 18. 43 ☽ γ ♑
25. 21. 41 ☽ δ ♑
26. 6. 26 ☽ ι ♐
27. 4. 6 ☽ λ ♐
27. 13. 29 ☽ φ ♐
27. 18. 30 ☽ ☌, A near Appulſe.

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Ascen. *in Time.*	Declin. *North.*	Equation of Time. *Add.*	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
Th.	1	0. 11. 3. 8	0. 40. 37, 9	4. 22. 41	4. 7, 0	18, 2
F.	2	0. 12. 2. 14	0. 44. 16, 2	4. 45. 49	3. 48, 8	18, 1
Sa.	3	0. 13. 1. 19	0. 47. 54, 6	5. 8. 53	3. 30, 7	18, 0
Sun.	4	0. 14. 0. 21	0. 51. 33, 1	5. 31. 50	3. 12, 7	17, 8
M.	5	0. 14. 59. 22	0. 55. 11, 7	5. 54. 42	2. 54, 9	17, 7
Tu.	6	0. 15. 58. 20	0. 58. 50, 6	6. 17. 27	2. 37, 2	17, 5
W.	7	0. 16. 57. 15	1. 2. 29, 6	6. 40. 6	2. 19, 7	17, 3
Th.	8	0. 17. 56. 9	1. 6. 8, 8	7. 2. 38	2. 2, 4	17, 1
F.	9	0. 18. 55. 0	1. 9. 48, 2	7. 25. 3	1. 45, 3	16, 9
Sa.	10	0. 19. 53. 49	1. 13. 27, 9	7. 47. 20	1. 28, 4	16, 6
Sun.	11	0. 20. 52. 35	1. 17. 7, 7	8. 9. 29	1. 11, 8	16, 4
M.	12	0. 21. 51. 19	1. 20. 47, 9	8. 31. 30	0. 55, 4	16, 1
Tu.	13	0. 22. 50. 1	1. 24. 28, 3	8. 53. 22	0. 39, 3	15, 8
W.	14	0. 23. 48. 40	1. 28. 9, 0	9. 15. 5	0. 23, 5	15, 5
Th.	15	0. 24. 47. 18	1. 31. 50, 0	9. 36. 39	0. 8, 0	15, 1
					— *Sub.* —	
F.	16	0. 25. 45. 53	1. 35. 31, 4	9. 58. 4	0. 7, 1	14, 8
Sa.	17	0. 26. 44. 26	1. 39. 13, 2	10. 19. 19	0. 21, 9	14, 4
Sun.	18	0. 27. 42. 58	1. 42. 55, 3	10. 40. 23	0. 36, 3	14, 0
M.	19	0. 28. 41. 27	1. 46. 37, 8	11. 1. 17	0. 50, 3	13, 6
Tu.	20	0. 29. 39. 55	1. 50. 20, 7	11. 22. 0	1. 3, 9	13, 2
W.	21	1. 0. 38. 21	1. 54. 4, 0	11. 42. 32	1. 17, 1	12, 7
Th.	22	1. 1. 36. 45	1. 57. 47, 8	12. 2. 53	1. 29, 8	12, 3
F.	23	1. 2. 35. 8	2. 1. 32, 1	12. 23. 2	1. 42, 1	11, 8
Sa.	24	1. 3. 33. 30	2. 5. 16, 8	12. 42. 59	1. 53, 9	11, 3
Sun.	25	1. 4. 31. 50	2. 9. 2, 0	13. 2. 44	2. 5, 2	10, 8
M.	26	1. 5. 30. 9	2. 12. 47, 7	13. 22. 16	2. 16, 0	10, 3
Tu.	27	1. 6. 28. 26	2. 16. 34, 0	13. 41. 35	2. 26, 3	9, 7
W.	28	1. 7. 26. 41	2. 20. 20, 8	14. 0. 41	2. 36, 0	9, 2
Th.	29	1. 8. 24. 56	2. 24. 8, 1	14. 19. 32	2. 45, 2	8, 7
F.	30	1. 9. 23. 8	2. 27. 55, 9	14. 38. 10	2. 53, 9	

Days	Time of ☉'s Semidiam. passg Merid.	THE SUN's Semi-diameter	Hourly Motion.	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 4, 4	16. 2, 6	2. 27, 7	0. 000080	11. 19. 47
7	1. 4, 5	16. 1, 0	2. 27, 3	0. 000825	11. 19. 28
13	1. 4, 7	15. 59, 3	2. 26, 7	0. 001544	11. 19. 9
19	1. 5, 1	15. 57, 8	2. 26, 2	0. 002260	11. 18. 50
25	1. 5, 5	15. 56, 3	2. 25, 7	0. 002972	11. 18. 31

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite.

Emerſions.

Days.	H. M. S.
1	3. 56. 20
2	22. 25. 32
4	16. 54. 38
* 6	11. 23. 50
8	5. 52. 55
10	0. 22. 3
11	18. 51. 8
*13	13. 20. 14
*15	7. 49. 20
17	2. 18. 24
18	20. 47. 24
20	15. 16. 29
*22	9. 45. 27
24	4. 14. 27
25	22. 43. 24
27	17. 12. 20
*29	11. 41. 11

II. Satellite.

Emerſions.

Days.	H. M. S.
1	1. 17. 38
* 4	14. 37. 28
8	3. 57. 9
11	17. 16. 50
15	6. 36. 28
18	19. 55. 58
*22	9. 15. 29
25	22. 34. 59
*29	11. 54. 15

III. Satellite.

Days.	H. M. S.
* 2	11. 38. 44 Im.
* 2	15. 0. 41 E.
9	15. 39. 58 Im.
9	19. 1. 21 E.
16	19. 41. 2 Im.
16	23. 1. 50 E.
23	23. 41. 50 Im.
24	3. 2. 1 E.

IV. Satellite.

* 2	11. 47. 52 Im.
2	16. 19. 42 E.
19	5. 52. 53 Im.
*19	10. 22. 11 E.

Days	THE PLANETS Heliocentric Long.	Lat.	Geocentric Long.	Lat.	Declin.	Passage Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M	H. M
	☿ Gr. Elong. 9d. *MERCURY.*					
1	7.26.31	1.17 S	11.15.10	0.47 S	6.34 S	22.25
4	8. 4.52	2.16	11.17. 1	1.20	6.21	22.22
7	8.13. 6	3.12	11.19.25	1.47	5.50	22.21
10	8.21.21	4. 4	11.22.18	2. 9	5. 2	22.22
13	8.29.41	4.51	11.25.35	2.25	3.59	22.24
16	9. 8.13	5.32	11.29.13	2.36	2.42	22.27
19	9.17. 1	6. 8	0. 3.11	2.42	1.13 S	22.31
22	9.26.14	6.35	0. 7.27	2.43	0.29 N	22.36
25	10. 5.57	6.54	0.12. 0	2.39	2.18	22.41
28	10.16.20	7. 0	0.16.50	2.30	4.18	22.48
30	10.23.41	6.56	0.20.12	2.22	5.43	22.53
	♀ *VENUS.*					
1	0.19.48	2.47 S	0.14.44	1.10 S	4.44 N	0.15
7	0.29.23	2.25	0.22.10	1. 1	7.42	0.21
13	1. 8.59	1.59	0.29.35	0.50	10.33	0.27
19	1.18.35	1.30	1. 7. 0	0.38	13.16	0.33
25	1.28.13	0.58	1.14.24	0.25	15.47	0.39
	♂ *MARS.*					
1	9.26.58	1.43 S	10.26.48	1.15 S	13.46 S	21.17
7	10. 0.40	1.46	11. 1.25	1.18	12.12	21.13
13	10. 4.24	1.48	11. 6. 2	1.20	10.33	21. 8
19	10. 8. 8	1.49	11.10.38	1.22	8.51	21. 3
25	10.11.54	1.50	11.15.15	1.24	7. 7	20.58
	♃ *JUPITER.*					
1	5. 3.58	1. 5 N	4.26.30	1.15 N	13.52 N	9.15
7	5. 4.26	1. 5	4.26.10	1.15	13.59	8.51
13	5. 4.54	1. 5	4.25.56	1.14	14. 3	8.29
19	5. 5.22	1. 6	4.25.49	1.13	14. 4	8. 6
25	5. 5.49	1. 6	4.25.49	1.12	14. 4	7.44
	♄ *SATURN.*					
1	5. 5.22	1.43 N	5. 1.26	1.53 N	12.44N	9.34
7	5. 5.35	1.44	5. 1. 9	1.53	12.50	9.12
13	5. 5.48	1.44	5. 0.55	1.52	12.54	8.49
19	5. 6. 1	1.45	5. 0.45	1.51	12.58	8.26
25	5. 6.13	1.45	5. 0.38	1.51	12.59	8. 3
	♅ *GEORGIAN.*					
1	6. 5. 8	0.43 N	6. 4.48	0.45 N	1.13 S	11.36
11	6. 5.16	0.43	6. 4.22	0.45	1. 3	10.58
21	6. 5.24	0.43	6. 3.58	0.45	0.54	10.20

Days of the Week.	Days of the Month.	THE MOON's Longitude. Noon.	Longitude. Midnight.	Latitude. Noon.	Latitude. Midnight.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
Th.	1	11. 25. 38. 33	0. 2. 56. 46	0. 27. 52 N	1. 7. 43 N
F.	2	0. 10. 12. 32	0. 17. 25. 0	1. 46. 14	2. 22. 43
Sa.	3	0. 24. 33. 27	1. 1. 37. 16	2. 56. 35	3. 27. 19
Sun.	4	1. 8. 35. 53	1. 15. 28. 55	3. 54. 33	4. 17. 59
M.	5	1. 22. 16. 7	1. 28. 57. 17	4. 37. 25	4. 52. 43
Tu.	6	2. 5. 32. 28	2. 12. 1. 48	5. 3. 55	5. 11. 0
W.	7	2. 18. 25. 28	2. 24. 43. 48	5. 14. 7	5. 13. 20
Th.	8	3. 0. 57. 14	3. 7. 6. 15	5. 8. 53	5. 0. 54
F.	9	3. 13. 11. 21	3. 19. 13. 8	4. 49. 36	4. 35. 11
Sa.	10	3. 25. 12. 10	4. 1. 9. 6	4. 17. 53	3. 57. 53
Sun.	11	4. 7. 4. 32	4. 12. 59. 5	3. 35. 26	3. 10. 44
M.	12	4. 18. 53. 23	4. 24. 48. 0	2. 44. 2	2. 15. 32
Tu.	13	5. 0. 43. 30	5. 6. 40. 29	1. 45. 32	1. 14. 16
W.	14	5. 12. 39. 23	5. 18. 40. 40	0. 42. 4 N	0. 9. 12 N
Th.	15	5. 24. 44. 45	6. 0. 51. 59	0. 23. 59 S	0. 57. 9 S
F.	16	6. 7. 2. 37	6. 13. 16. 55	1. 29. 55	2. 1. 53
Sa.	17	6. 19. 35. 1	6. 25. 57. 1	2. 32. 40	3. 1. 48
Sun.	18	7. 2. 22. 57	7. 8. 52. 48	3. 28. 55	3. 53. 34
M.	19	7. 15. 26. 28	7. 22. 3. 51	4. 15. 23	4. 33. 57
Tu.	20	7. 28. 44. 46	8. 5. 28. 57	4. 48. 55	5. 0. 3
W.	21	8. 12. 16. 14	8. 19. 6. 22	5. 7. 3	5. 9. 44
Th.	22	8. 25. 59. 7	9. 2. 54. 14	5. 8. 0	5. 1. 45
F.	23	9. 9. 51. 29	9. 16. 50. 37	4. 51. 4	4. 36. 9
Sa.	24	9. 23. 51. 30	10. 0. 53. 54	4. 16. 45	3. 53. 33
Sun.	25	10. 7. 57. 40	10. 15. 2. 37	3. 26. 43	2. 56. 38
M.	26	10. 22. 8. 34	10. 29. 15. 20	2. 23. 45	1. 48. 35
Tu.	27	11. 6. 22. 41	11. 13. 30. 21	1. 11. 41 S	0. 33. 40 S
W.	28	11. 20. 38. 3	11. 27. 45. 21	0. 4. 52 N	0. 43. 14 N
Th.	29	0. 4. 51. 55	0. 11. 57. 15	1. 20. 51	1. 57. 2
F.	30	0. 19. 0. 44	0. 26. 1. 59	2. 31. 14	3. 2. 53

Days of the Week.	Days of the Month.	THE MOON's Age.	Passage Merid.	Right Ascension. Noon.	Right Ascension. Midnight.	Declination. Noon.	Declination. Midnight.
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
Th.	1	30	23. 50	355. 49	2. 15	1. 18 S	2. 12 N
F.	2	1	0	8. 41	15. 8	5. 41 N	9. 3
Sa.	3	2	0. 40	21. 38	28. 13	12. 16	15. 18
Sun.	4	3	1. 31	34. 54	41. 40	18. 5	20. 36
M.	5	4	2. 24	48. 34	55. 33	22. 49	24. 42
Tu.	6	5	3. 19	62. 38	69. 45	26. 14	27. 24
W.	7	6	4. 14	76. 54	84. 1	28. 11	28. 35
Th.	8	7	5. 9	91. 5	98. 2	28. 37	28. 17
F.	9	8	6. 2	104. 52	111. 32	27. 37	26. 38
Sa.	10	9	6. 52	118. 1	124. 20	25. 21	23. 48
Sun.	11	10	7. 39	130. 28	136. 25	22. 0	19. 59
M.	12	11	8. 22	142. 13	147. 53	17. 47	15. 24
Tu.	13	12	9. 4	153. 26	158. 53	12. 52	10. 13
W.	14	13	9. 45	164. 17	169. 39	7. 28	4. 37 N
Th.	15	14	10. 25	175. 1	180. 25	1. 43 N	1. 13 S
F.	16	15	11. 7	185. 52	191. 25	4. 10 S	7. 7
Sa.	17	16	11. 51	197. 6	202. 56	10. 1	12. 51
Sun.	18	17	12. 38	208. 57	215. 11	15. 35	18. 10
M.	19	18	13. 29	221. 39	228. 22	20. 33	22. 43
Tu.	20	19	14. 24	235. 21	242. 35	24. 36	26. 10
W.	21	20	15. 23	250. 2	257. 40	27. 22	28. 10
Th.	22	21	16. 24	265. 27	273. 17	28. 32	28. 28
F.	23	22	17. 25	281. 8	288. 55	27. 56	26. 58
Sa.	24	23	18. 23	296. 34	304. 3	25. 34	23. 46
Sun.	25	24	19. 18	311. 20	318. 26	21. 37	19. 9
M.	26	25	20. 10	325. 19	332. 2	16. 25	13. 27
Tu.	27	26	20. 59	338. 35	345. 1	10. 17	7. 0
W.	28	27	21. 47	351. 22	357. 39	3. 38 S	0. 14 S
Th.	29	28	22. 36	3. 56	10. 13	3. 10 N	6. 31 N
F.	30	29	23. 25	16. 34	23. 0	9. 47	12. 54

Days of the Week.	Days of the Month.	THE MOON's Semidiameter.		Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*	*Noon.*	*Midn.*
		M. S.	M. S.	M. S.	M. S.		
Th.	1	16. 27	16. 24	60. 21	60. 12	4746	4757
F.	2	16. 21	16. 16	59. 59	59. 42	4772	4793
Sa.	3	16. 11	16. 5	59. 22	59. 0	4817	4844
Sun.	4	15. 58	15. 52	58. 37	58. 13	4872	4902
M.	5	15. 45	15. 38	57. 47	57. 22	4934	4966
Tu.	6	15. 31	15. 25	56. 57	56. 33	4998	5028
W.	7	15. 18	15. 12	56. 10	55. 48	5058	5086
Th.	8	15. 7	15. 2	55. 28	55. 12	5112	5133
F.	9	14. 58	14. 55	54. 57	54. 45	5153	5169
Sa.	10	14. 52	14. 50	54. 34	54. 26	5183	5194
Sun.	11	14. 49	14. 48	54. 22	54. 20	5199	5202
M.	12	14. 48	14. 49	54. 20	54. 22	5202	5199
Tu.	13	14. 50	14. 52	54. 27	54. 33	5193	5185
W.	14	14. 54	14. 57	54. 42	54. 53	5173	5158
Th.	15	15. 1	15. 4	55. 5	55. 18	5142	5125
F.	16	15. 8	15. 12	55. 32	55. 47	5107	5087
Sa.	17	15. 16	15. 20	56. 2	56. 17	5068	5049
Sun.	18	15. 25	15. 29	56. 33	56. 49	5028	5008
M.	19	15. 33	15. 37	57. 5	57. 20	4987	4968
Tu.	20	15. 41	15. 45	57. 35	57. 49	4950	4932
W.	21	15. 49	15. 53	58. 3	58. 16	4915	4898
Th.	22	15. 56	15. 59	58. 28	58. 39	4883	4870
F.	23	16. 2	16. 5	58. 50	59. 0	4856	4844
Sa.	24	16. 7	16. 9	59. 9	59. 17	4833	4823
Sun.	25	16. 11	16. 13	59. 23	59. 29	4816	4809
M.	26	16. 14	16. 15	59. 34	59. 37	4802	4799
Tu.	27	16. 15	16. 15	59. 39	59. 39	4797	4797
W.	28	16. 15	16. 14	59. 37	59. 33	4799	4804
Th.	29	16. 12	16. 10	59. 26	59. 18	4812	4822
F.	30	16. 7	16. 3	59. 7	58. 53	4835	4853

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Pollux.	3	- - -	- - -	- - -	- - -	78. 33. 50	76. 48. 41	75. 3. 55	73. 19. 30
	4	71. 35. 29	69. 51. 50	68. 8. 34	66. 25. 42	64. 43. 12	63. 1. 5	61. 19. 23	59. 38. 3
	5	57. 57. 8	56. 16. 38	54. 36. 31	52. 56. 48	51. 17. 29	49. 38. 33	48. 0. 1	46. 21. 53
	6	44. 44. 7							
Regulus.	6	81. 32. 21	79. 54. 52	78. 17. 47	76. 41. 3	75. 4. 41	73. 28. 41	71. 53. 1	70. 17. 43
	7	68. 42. 45	67. 8. 8	65. 33. 49	63. 59. 50	62. 26. 10	60. 52. 48	59. 19. 44	57. 46. 56
	8	56. 14. 26	54. 42. 12	53. 10. 13	51. 38. 30	50. 7. 1	48. 35. 47	47. 4. 45	45. 33. 57
	9	44. 3. 21	42. 32. 57	41. 2. 44	39. 32. 42	38. 2. 50	36. 33. 8	35. 3. 34	33. 34. 9
	10	32. 4. 53	30. 35. 44	29. 6. 41	27. 37. 45	26. 8. 55	24. 40. 11	23. 11. 32	21. 42. 58
	11	20. 14. 28							
Spica ♍	11	74. 11. 23	72. 42. 40	71. 13. 58	69. 45. 17	68. 16. 37	66. 47. 57	65. 19. 15	63. 50. 33
	12	62. 21. 49	60. 53. 3	59. 24. 13	57. 55. 21	56. 26. 25	54. 57. 25	53. 28. 20	51. 59. 10
	13	50. 29. 54	49. 0. 32	47. 31. 2	46. 1. 26	44. 31. 43	43. 1. 52	41. 31. 53	40. 1. 45
	14	38. 31. 29	37. 1. 3	35. 30. 28	33. 59. 42	32. 28. 47	30. 57. 41	29. 26. 24	27. 54. 56
	15	26. 23. 17	24. 51. 26	23. 19. 24	21. 47. 10	20. 14. 44			
Antares.	15	- - -	- - -	- - -	- - -	66. 8. 31	64. 35. 51	63. 2. 58	61. 29 52
	16	59. 56. 33	58. 23. 1	56. 49. 15	55. 15. 17	53. 41. 5	52. 6. 40	50. 32. 1	48. 57. 9
	17	47. 22. 4	45. 46. 45	44. 11. 12	42. 35. 26	40. 59. 26	39. 23. 13	37. 46. 46	36. 10. 6
	18	34. 33. 13							

	18	34. 33. 13							

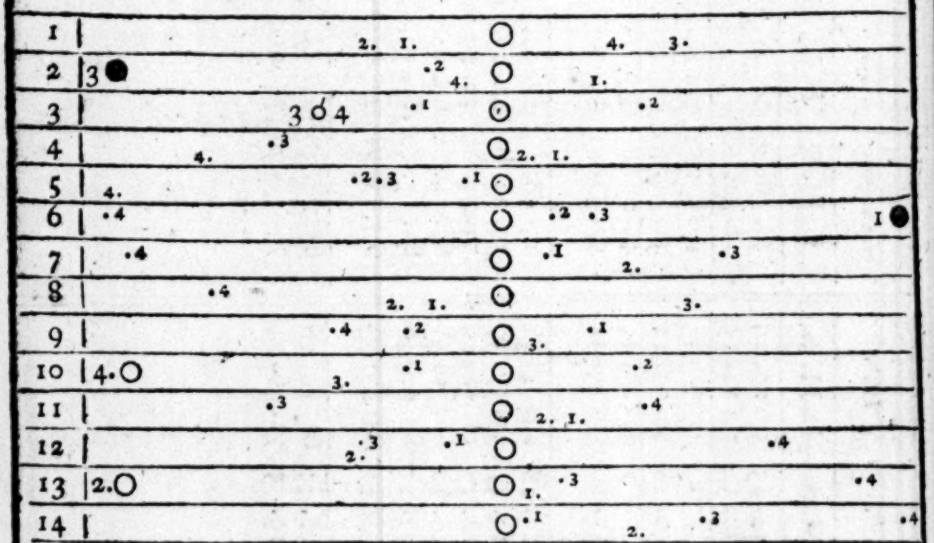
Stars Names.	Days	*Noon.*	III^{h}.	VI^{h}.	IX^{h}.	*Midnight.*	XV^{h}.	XVIII^{h}.	XXI^{h}.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
	18	88. 44. 28	87. 23. 18	86. 1. 59	84. 40. 32	83. 18. 59	81. 57. 22	80. 35. 40	79. 13. 58
α Aquilæ.	19	77. 52. 14	76. 30. 30	75. 8. 50	73. 47. 15	72. 25. 45	71. 4. 24	69. 43. 13	68. 22. 14
	20	67. 1. 29							
	20	90. 25. 47	88. 51. 1	87. 16. 5	85. 41. 0	84. 5. 46	82. 30. 23	80. 54. 54	79. 19. 18
	21	77. 43. 36	76. 7. 48	74. 31. 57	72. 56. 3	71. 20. 5	69. 44. 5	68. 8. 6	66. 32. 8
Fomalhaut.	22	64. 56. 11	63. 20. 17	61. 44. 28	60. 8. 46	58. 33. 11	56. 57. 43	55. 22. 29	53. 47. 29
	23	52. 12. 44	50. 38. 15	49. 4. 11	47. 30. 33	45. 57. 22	44. 24. 46	42. 52. 47	41. 21. 28
	24	39. 50. 54							
	24	101. 35. 19	99. 50. 39	98. 5. 52	96. 20. 57	94. 35. 56	92. 50. 48	91. 5. 33	89. 20. 12
α Arietis.	25	87. 34. 44							
	22	- - -	- - -	- - -	120. 40. 24	119. 4. 19	117. 28. 5	115. 51. 42	114. 15. 10
	23	112. 38. 30	111. 1. 42	109. 24. 46	107. 47. 41	106. 10. 29	104. 33. 9	102. 55. 41	101. 18. 5
	24	99. 40. 22	98. 2. 32	96. 24. 35	94. 46. 31	93. 8. 20	91. 30. 2	89. 51. 39	88. 13. 8
The Sun.	25	86. 34. 32	84. 55. 50	83. 17. 2	81. 38. 9	79. 59. 10	78. 20. 7	76. 40. 59	75. 1. 46
	26	73. 22. 29	71. 43. 7	70. 3. 42	68. 24. 13	66. 44. 41	65. 5. 6	63. 25. 30	61. 45. 51
	27	60. 6. 11	58. 26. 29	56. 46. 47	55. 7. 4	53. 27. 21	51. 47. 37	50. 7. 56	48. 28. 16
	28	46. 48. 38	45. 9. 4	43. 29. 34	41. 50. 9	40. 10. 48			

DISTANCES of MOON's *Center* from SUN, and from STARS *WEST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
The Sun.	5	37. 31. 25	39. 4. 32	40. 37. 16	42. 9. 36	43. 41. 33	45. 13. 7	46. 44. 18	48. 15. 7
	6	49. 45. 33	51. 15. 37	52. 45. 19	54. 14. 39	55. 43. 38	57. 12. 15	58. 40. 31	60. 8. 26
	7	61. 36. 1	63. 3. 16	64. 30. 11	65. 56. 47	67. 23. 5	68. 49. 4	70. 14. 46	71. 40. 11
	8	73. 5. 19	74. 30. 11	75. 54. 49	77. 19. 11	78. 43. 19	80. 7. 12	81. 30. 52	82. 54. 19
	9	84. 17. 34	85. 40. 38	87. 3. 31	88. 26. 14	89. 48. 46	91. 11. 8	92. 33. 23	93. 55. 29
	10	95. 17. 27	96. 39. 19	98. 1. 5	99. 22. 45	100. 44. 20	102. 5. 50	103. 27. 16	104. 48. 39
	11	106. 9. 59	107. 31. 17	108. 52. 33	110. 13. 48	111. 35. 2	112. 56. 16	114. 17. 31	115. 38. 47
	12	117. 0. 4	118. 21. 23	119. 42. 45	121. 4. 10	122. 25. 38			
Aldebaran.	9	- - -	- - -	- - -	- - -	43. 19. 33	44. 46. 10	46. 12. 48	47. 39. 27
	10	49. 6. 6	50. 32. 46	51. 59. 26	53. 26. 7	54. 52. 49	56. 19. 31	57. 46. 14	59. 12. 58
	11	60. 39. 43	62. 6. 29	63. 33. 16	65. 0. 6	66. 26. 57	67. 53. 51	69. 20. 49	70. 47. 49
	12	72. 14. 54							
Pollux.	12	28. 33. 44	30. 2. 16	31. 30. 51	32. 59. 31	34. 28. 15	35. 57. 4	37. 25. 59	38. 54. 59
	13	40. 24. 6	41. 53. 20	43. 22. 41	44. 52. 10	46. 21. 47	47. 51. 32	49. 21. 25	50. 51. 28
	14	52. 21. 39							
Regulus.	14	15. 34. 12	17. 4. 13	18. 34. 26	20. 4. 53	21. 35. 32	23. 6. 24	24. 37. 29	26. 8. 47
	15	27. 40. 17	29. 12. 0	30. 43. 56	32. 16. 5	33. 48. 27	35. 21. 1	36. 53. 48	38. 26. 49
	16	40. 0. 3	41. 33. 30	43. 7. 11	44. 41. 5	46. 15. 12	47. 49. 33	49. 24. 8	50. 58. 57

Stars Names.	Days	*Noon.*	IIIh.	VIh.	IXh.	*Midnight.*	XVh.	XVIIIh.	XXIh.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Regulus.	17	52. 33. 59	54. 9. 15	55. 44. 45	57. 20. 29	58. 56. 26	60. 32. 37	62. 9. 2	63. 45. 40
	18	65. 22. 31	66. 59. 36	68. 36. 54	70. 14. 25	71. 52. 10			
Spica ♍.	18	- - -	- - -	- - -	- - -	17. 51. 42	19. 29. 38	21. 7. 48	22. 46. 11
	19	24. 24. 47	26. 3. 36	27. 42. 38	29. 21. 52	31. 1. 19	32. 40. 58	34. 20. 49	36. 0. 52
	20	37. 41. 6	39. 21. 31	41. 2. 7	42. 42. 55	44. 23. 53	46. 5. 3	47. 46. 23	49. 27. 54
	21	51. 9. 36	52. 51. 28	54. 33. 30	56. 15. 41	57. 58. 3	59. 40. 34	61. 23. 15	63. 6. 5
	22	64. 49. 5							
Antares.	22	18. 55. 4	20. 38. 11	22. 21. 28	24. 4. 54	25. 48. 29	27. 32. 13	29. 16. 5	31. 0. 6
	23	32. 44. 15	34. 28. 32	36. 12. 57	37. 57. 30	39. 42. 11	41. 27. 0	43. 11. 56	44. 57. 0
	24	46. 42. 12	48. 27. 31	50. 12. 57	51. 58. 29	53. 44. 9	55. 29. 55	57. 15. 48	59. 1. 47
	25	60. 47. 52	62. 34. 3	64. 20. 20	66. 6. 43	67. 53. 12	69. 39. 46	71. 26. 24	73. 13. 8
	26	74. 59. 56	76. 46. 49	78. 33. 45	80. 20. 46	82. 7. 50	83. 54. 58	85. 42. 8	87. 29. 21
	27	89. 16. 37	91. 3. 54	92. 51. 13	94. 38. 33	96. 25. 54	98. 13. 16	100. 0. 37	101. 47. 58
	28	103. 35. 19							
α Aquilæ.	28	57. 12. 7	58. 33. 57	59. 56. 35	61. 19. 56	62. 43. 58	64. 8. 39	65. 33. 50	66. 59. 31
	29	68. 25. 42	69. 52. 15	71. 19. 5	72. 46. 14	74. 13. 38	75. 41. 13	77. 8. 58	78. 36. 48
	30	80. 4. 41							

CONFIGURATIONS of the SATELLITES of JUPITER at X o'Clock in the *Evening*.



Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
Sa.	1	*St. Philip and St. James.*
Sun.	2	*2d Sun. after Easter.*
M.	3	Inv. of the Cross. From
Tu.	4	[Easter in 15 d. 1 ret.
W.	5	Easter Term begins.
Th.	6	John Evan. ante Port. L
F.	7	
Sa.	8	
Sun.	9	*3d Sun. after Easter.*
M.	10	Fr. East. in 3 weeks 2 ret.
Tu.	11	
W.	12	
Th.	13	
F.	14	
Sa.	15	
Sun.	16	*4th Sun. after Easter.*
M.	17	Fr. East. in 1 month 3 ret.
Tu.	18	
W.	19	*Q. Charlotte b.* Dunstan.
Th.	20	
F.	21	
Sa.	22	*Princess Elizabeth born.*
Sun.	23	*5th Su. aft. East. Rog. Su.*
M.	24	Fr. East. in 5 weeks 4 ret.
Tu.	25	
W.	26	Aug. 1st Abp. of Cant.
Th.	27	*Asc. D. Ho. Th.* Ven. Bede
F.	28	On mor. of Ascen. 5 ret.
Sa.	29	*K. Charles II. restored.*
Sun.	30	*Sunday after Ascen. Day.*
M.	31	Easter Term ends.

Phases of the MOON.

	D. H. M.
● New Moon - - - - -	1. 13. 43
☽ *First Quarter* - - - -	9. 6. 57
○ Full Moon - - - - -	17. 2. 37
☾ *Last Quarter* - - - -	23. 22. 56
● New Moon - - - - -	31. 0. 43

Other *Phenomena.*

D. H. M.	
3. - -	♄ Stationary.
4. 11. 50	☽ ☌ ♉
8. 3. 27	☽ ☍ ♋
9. 23. 1	☽ ♃
10. 7. 52	☽ ♄
10. 13. 55	☽ ☌ ☊
11. 6. 20	☽ ☍ ☊
11. 20. 20	☽ ☌ ☊
12. 7. 28	☽ ☌ ♍
14. 11. 12	☽ ☌ ♍
17. 9. 32	E. of ☌ ♍ * 7′½ N. of ☽'s C
17. 18. 36	☽ ☍ ♍
17. 22. 0	☽ ☌ ♍
18. 0. 57	☽ ☌ ♍
18. 18. 37	☽ 43 Ophiuchi.
20. 1. 58	☽ ☍ ♐
20. 9. 50	☽ ☌ ♐
21. 8. 47	☉ enters ♊
21. - -	♃ ☌ ☊, * 41′ South.
23. 0. 6	☽ ☍ ♑
23. 3. 4	☽ ☌ ♑
23. 11. 51	☽ ☍ ♒
24. 9. 43	☽ ☌ ♒
24. 19. 13	☽ ☍ ♒
26. 17. 43	☽ ☌ ♐
27. - -	♀ 132 ♉, * 13′ North.

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Ascen. *in Time.*	Declin. *North.*	Equation of Time. *Sub.*	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
Sa.	1	1. 10. 21. 19	2. 31. 44, 3	14. 56. 34	3. 2, 1	7, 6
Sun.	2	1. 11. 19. 29	2. 35. 33, 2	15. 14. 42	3. 9, 7	7, 1
M.	3	1. 12. 17. 37	2. 39. 22, 7	15. 32. 36	3. 16, 8	6, 5
Tu.	4	1. 13. 15. 43	2. 43. 12, 7	15. 50. 14	3. 23, 3	6, 0
W.	5	1. 14. 13. 47	2. 47. 3, 2	16. 7. 37	3. 29, 3	5, 4
Th.	6	1. 15. 11. 49	2. 50. 54, 3	16. 24. 44	3. 34, 7	4, 9
F.	7	1. 16. 9. 50	2. 54. 46, 0	16. 41. 34	3. 39, 6	4, 4
Sa.	8	1. 17. 7. 48	2. 58. 38, 2	16. 58. 7	3. 44, 0	3, 8
Sun.	9	1. 18. 5. 45	3. 2. 30, 9	17. 14. 24	3. 47, 8	3, 3
M.	10	1. 19. 3. 40	3. 6. 24, 2	17. 30. 23	3. 51, 1	2, 7
Tu.	11	1. 20. 1. 33	3. 10. 18, 1	17. 46. 5	3. 53, 8	2, 1
W.	12	1. 20. 59. 24	3. 14. 12, 5	18. 1. 29	3. 55, 9	1, 6
Th.	13	1. 21. 57. 13	3. 18. 7, 4	18. 16. 34	3. 57, 5	1, 0
F.	14	1. 22. 55. 1	3. 22. 2, 9	18. 31. 21	3. 58, 5	0, 5
Sa.	15	1. 23. 52. 47	3. 25. 59, 1	18. 45. 50	3. 59, 0	0, 1
Sun.	16	1. 24. 50. 32	3. 29. 55, 7	18. 59. 59	3. 58, 9	0, 7
M.	17	1. 25. 48. 15	3. 33. 52, 9	19. 13. 50	3. 58, 2	1, 2
Tu.	18	1. 26. 45. 56	3. 37. 50, 7	19. 27. 20	3. 57, 0	1, 8
W.	19	1. 27. 43. 37	3. 41. 49, 1	19. 40. 32	3. 55, 2	2, 4
Th.	20	1. 28. 41. 17	3. 45. 48, 0	19. 53. 23	3. 52, 8	2, 9
F.	21	1. 29. 38. 55	3. 49. 47, 5	20. 5. 54	3. 49, 9	3, 5
Sa.	22	2. 0. 36. 33	3. 53. 47, 6	20. 18. 5	3. 46, 4	4, 0
Sun.	23	2. 1. 34. 9	3. 57. 48, 2	20. 29. 55	3. 42, 4	4, 6
M.	24	2. 2. 31. 45	4. 1. 49, 3	20. 41. 24	3. 37, 8	5, 2
Tu.	25	2. 3. 29. 20	4. 5. 51, 0	20. 52. 32	3. 32, 6	5, 7
W.	26	2. 4. 26. 54	4. 9. 53, 3	21. 3. 18	3. 26, 9	6, 2
Th.	27	2. 5. 24. 28	4. 13. 56, 1	21. 13. 43	3. 20, 7	6, 7
F.	28	2. 6. 22. 1	4. 17. 59, 4	21. 23. 46	3. 14, 0	7, 2
Sa.	29	2. 7. 19. 32	4. 22. 3, 1	21. 33. 27	3. 6, 8	7, 6
Sun.	30	2. 8. 17. 3	4. 26. 7, 4	21. 42. 45	2. 59, 2	8, 1
M.	31	2. 9. 14. 33	4. 30. 12, 1	21. 51. 41	2. 51, 1	

Days	Time of ☉'s Semidiam. passg Merid.	THE SUN's Semi-diameter	Hourly Motion.	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 5,9	15. 54,8	2. 25,3	0. 003647	11. 18. 12
7	1. 6,4	15. 53,4	2. 25,0	0. 004260	11. 17. 53
13	1. 6,9	15. 52,2	2. 24,6	0. 004815	11. 17. 34
19	1. 7,4	15. 51,0	2. 24,3	0. 005337	11. 17. 15
25	1. 7,8	15. 49,9	2. 23,9	0. 005822	11. 16. 56

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite.

Emerſions.

Days.	H. M. S.
1	6. 10. 7
3	0. 38. 54
4	19. 7. 48
6	13. 36. 33
8	8. 5. 19
10	2. 34. 8
11	21. 2. 49
13	15. 31. 31
*15	10. 0. 11
17	4. 28. 51
18	22. 57. 23
20	17. 26. 1
*22	11. 54. 33
24	6. 23. 4
26	0. 51. 32
27	19. 20. 1
29	13. 48. 25
31	8. 16. 54

II. Satellite.

Emerſions.

Days.	H. M. S.
3	1. 13. 33
6	14. 32. 39
10	3. 51. 34
13	17. 10. 26
17	6. 29. 10
20	19. 47. 48
*24	9. 6. 18
27	22. 24. 37
*31	11. 42. 52

III. Satellite.

Days.	H. M. S.	
1	3. 42. 12	Im.
1	7. 1. 46	E.
8	7. 42. 16	Im.
* 8	11. 1. 19	E.
*15	11. 41. 49	Im.
15	15. 0. 14	E.
22	15. 40. 52	Im.
22	18. 58. 39	E.
29	19. 39. 24	Im.
29	22. 56. 34	E.

IV. Satellite.

5	23. 56. 37	Im.
6	4. 23. 9	E.
22	17. 57. 34	Im.
22	22. 21 2	E.

Days	Heliocentric Long.	Heliocentric Lat.	Geocentric Long.	Geocentric Lat.	Declin.	Paſſage Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
	☿		*MERCURY.*		Sup. ☌ 18d. 18h¾.	
1	10. 27. 31	6. 52 S	0. 21. 56	2. 17 S	6. 26 N	22. 55
4	11. 9. 40	6. 25	0. 27. 19	1. 59	8. 41	23. 4
7	11. 22. 57	5. 36	1. 2. 58	1. 36	11. 1	23. 14
10	0. 7. 30	4. 22	1. 8. 54	1. 10	13. 23	23. 25
13	0. 23. 26	2. 42	1. 15. 5	0. 41	15. 44	23. 37
16	1. 10. 39	0. 39 S	1. 21. 28	0. 9 S	18. 0	23. 51
19	1. 28. 56	1. 34 N	1. 28. 1	0. 22 N	20. 6	0. 1
22	2. 17. 49	3. 42	2. 4. 35	0. 52	21. 56	0. 16
25	3. 6. 39	5. 25	2. 11. 5	1. 19	23. 26	0. 31
28	3. 24. 48	6. 32	2. 17. 22	1. 40	24. 32	0. 47
31	4. 11. 47	6. 59	2. 23. 22	1. 56	25. 14	1. 1
	♀		*VENUS.*			
1	2. 7. 52	0. 25 S	1. 21. 47	0. 11 S	18. 4 N	0. 46
7	2. 17. 32	0. 9 N	1. 29. 10	0. 4 N	20. 4	0. 53
13	2. 27. 13	0. 43	2. 6. 31	0. 19	21. 44	1. 0
19	3. 6. 56	1. 16	2. 13. 52	0. 34	23. 3	1. 8
25	3. 16. 39	1. 47	2. 21. 13	0. 48	23. 58	1. 16
	♂		*MARS.*			
1	10. 15. 40	1. 51 S	11. 19. 50	1. 26 S	5. 21 S	20. 52
7	10. 19. 28	1. 51	11. 24. 25	1. 27	3. 33	20. 46
13	10. 23. 16	1. 51	11. 28. 59	1. 28	1. 45 S	20. 40
19	10. 27. 4	1. 50	0. 3. 32	1. 29	0. 3 N	20. 32
25	11. 0. 52	1. 48	0. 8. 3	1. 29	1. 50	20. 25
	♃		*JUPITER.*		□ 18d. 1h.	
1	5. 6. 17	1. 7 N	4. 25. 55	1. 11 N	14. 1 N	7. 22
7	5. 6. 45	1. 7	4. 26. 8	1. 10	13. 55	6. 59
13	5. 7. 12	1. 7	4. 26. 27	1. 9	13. 48	6. 37
19	5. 7. 40	1. 8	4. 26. 53	1. 9	13. 39	6. 15
25	5. 8. 8	1. 8	4. 27. 23	1. 8	13. 27	5. 53
	♄		*SATURN.*		□ 22d. 8h.	
1	5. 6. 26	1. 45 N	5. 0. 35	1. 50 N	13. 0 N	7. 40
7	5. 6. 39	1. 46	5. 0. 36	1. 49	12. 59	7. 17
13	5. 6. 51	1. 46	5. 0. 41	1. 49	12. 56	6. 54
19	5. 7. 4	1. 47	5. 0. 49	1. 48	12. 53	6. 31
25	5. 7. 17	1. 47	5. 1. 1	1. 47	12. 48	6. 8
	♅		*GEORGIAN.*			
1	6. 5. 32	0. 43 N	6. 3. 38	0. 45 N	0. 46 S	9. 41
11	6. 5. 39	0. 43	6. 3. 20	0. 44	0. 39	9. 2
21	6. 5. 47	0. 43	6. 3. 8	0. 44	0. 34	8. 21

Days of the Week.	Days of the Month.	THE MOON's Longitude. Noon.	Longitude. Midnight.	Latitude. Noon.	Latitude. Midnight.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
Sa.	1	1. 3. 0.25	1. 9.55.30	3.31.33 N	3.56.49 N
Sun.	2	1.16.46.49	1.23.33.54	4.18.23	4.36. 2
M.	3	2. 0.16.25	2. 6.54. 6	4.49.40	4.59.11
Tu.	4	2.13.26.50	2.19.54.32	5. 4.37	5. 6. 4
W.	5	2.26.17.16	3. 2.35.12	5. 3.41	4.57.36
Th.	6	3. 8.48.34	3.14.57.42	4.48. 4	4.35.16
F.	7	3.21. 3. 4	3.27. 5. 8	4.19.27	4. 0.51
Sa.	8	4. 3. 4.26	4. 9. 1.34	3.39.44	3.16.20
Sun.	9	4.14.57. 9	4.20.51.51	2.50.56	2.23.44
M.	10	4.26.46.20	5. 2.41.15	1.55. 0	1.25. 1
Tu.	11	5. 8.37.17	5.14.35. 6	0.54. 1 N	0.22.17 N
W.	12	5.20.35.16	5.26.38.26	0. 9.52 S	0.42.10 S
Th.	13	6. 2.45. 7	6. 8.55.48	1.14.14	1.45.44
F.	14	6.15.10.54	6.21.30.44	2.16.19	2.45.33
Sa.	15	6.27.55.34	7. 4.25.31	3.13. 2	3.38.21
Sun.	16	7.11. 0.37	7.17.40.46	4. 1. 4	4.20.46
M.	17	7.24.25.48	8. 1.15.24	4.37. 4	4.49.34
Tu.	18	8. 8. 9.10	8.15. 6.38	4.58. 0	5. 2. 6
W.	19	8.22. 7.15	8.29.10.25	5. 1.42	4.56.43
Th.	20	9. 6.15.33	9.13.22. 4	4.47. 9	4.33. 7
F.	21	9.20.29.23	9.27.37. 0	4.14.49	3.52.32
Sa.	22	10. 4.44.28	10.11.51.27	3.26.35	2.57.27
Sun.	23	10.18.57.38	10.26. 2.47	2.25.36	1.51.32
M.	24	11. 3. 6.46	11.10. 9.25	1.15.52	0.39. 8 S
Tu.	25	11.17.10.40	11.24.10.28	0. 1.56 S	0.35. 9 N
W.	26	0. 1. 8.43	0. 8. 5.20	1.11.34 N	1.46.43
Th.	27	0.15. 0.13	0.21.53.12	2.20. 7	2.51.17
F.	28	0.28.44. 6	1. 5.32.43	3.19.46	3.45.11
Sa.	29	1.12.18.49	1.19. 2. 7	4. 7.15	4.25.40
Sun.	30	1.25.42.23	2. 2.19.21	4.40.18	4.51. 0
M.	31	2. 8.52.48	2.15.22.31	4.57.44	5. 0.31

Days of the Week.	Days of the Month.	Age.	THE MOON's Passage Merid.	Right Ascension.		Declination.	
				Noon.	*Midnight.*	*Noon.*	*Midnight.*
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
Sa.	1	1	0	29. 32	36. 12	15. 50 N	18. 33 N
Sun.	2	2	0. 17	43. 0	49. 56	21. 0	23. 8
M.	3	3	1. 11	56. 59	64. 8	24. 57	26. 24
Tu.	4	4	2. 7	71. 21	78. 35	27. 29	28. 10
W.	5	5	3. 3	85. 48	92. 56	28. 28	28. 24
Th.	6	6	3. 57	99. 57	106. 49	27. 58	27. 11
F.	7	7	4. 49	113. 30	120. 0	26. 5	24. 42
Sa.	8	8	5. 37	126. 17	132. 23	23. 3	21. 10
Sun.	9	9	6. 22	138. 18	144. 4	19. 5	16. 49
M.	10	10	7. 4	149. 40	155. 10	14. 24	11. 51
Tu.	11	11	7. 45	160. 35	165. 57	9. 11	6. 25
W.	12	12	8. 25	171. 17	176. 38	3. 35 N	0. 42 N
Th.	13	13	9. 5	182. 2	187. 30	2. 14 S	5. 10 S
F.	14	14	9. 48	193. 5	198. 50	8. 5	10. 57
Sa.	15	15	10. 33	204. 45	210. 53	13. 45	16. 26
Sun.	16	16	11. 23	217. 15	223. 54	18. 58	21. 18
M.	17	17	12. 17	230. 50	238. 2	23. 22	25. 9
Tu.	18	18	13. 16	245. 30	253. 12	26. 36	27. 38
W.	19	19	14. 18	261. 5	269. 4	28. 15	28. 25
Th.	20	20	15. 20	277. 4	285. 2	28. 6	27. 19
F.	21	21	16. 20	292. 52	300. 32	26. 6	24. 28
Sa.	22	22	17. 16	307. 59	315. 12	22. 26	20. 5
Sun.	23	23	18. 8	322. 11	328. 57	17. 28	14. 36
M.	24	24	18. 57	335. 31	341. 56	11. 33	8. 22
Tu.	25	25	19. 44	348. 13	354. 25	5. 6 S	1. 47 S
W.	26	26	20. 31	0. 35	6. 43	1. 33 N	4. 51 N
Th.	27	27	21. 19	12. 54	19. 9	8. 4	11. 11
F.	28	28	22. 8	25. 29	31. 56	14. 9	16. 55
Sa.	29	29	23. 0	38. 32	45. 16	19. 28	21. 45
Sun.	30	30	23. 55	52. 10	59. 11	23. 44	25. 24
M.	31	1	0	66. 18	73. 30	26. 42	27. 38

Days of the Week.	Days of the Month.	THE MOON's Semidiameter.		Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*		
		M. S.	M. S.	M. S.	M. S.	*Noon.*	*Midn.*
Sa.	1	15. 59	15. 54	58. 38	58. 22	4871	4891
Sun.	2	15. 49	15. 44	58. 3	57. 43	4915	4940
M.	3	15. 38	15. 32	57. 22	57. 1	4966	4992
Tu.	4	15. 26	15. 21	56. 40	56. 19	5019	5046
W.	5	15. 16	15. 10	56. 0	55. 41	5071	5095
Th.	6	15. 6	15. 2	55. 24	55. 9	5118	5137
F.	7	14. 58	14. 55	54. 55	54. 44	5155	5170
Sa.	8	14. 52	14. 51	54. 35	54. 29	5182	5190
Sun.	9	14. 50	14. 49	54. 25	54. 23	5195	5198
M.	10	14. 50	14. 51	54. 25	54. 29	5195	5190
Tu.	11	14. 52	14. 55	54. 35	54. 43	5182	5171
W.	12	14. 58	15. 1	54. 54	55. 7	5157	5140
Th.	13	15. 5	15. 10	55. 22	55. 39	5120	5098
F.	14	15. 15	15. 20	55. 56	56. 15	5076	5051
Sa.	15	15. 25	15. 31	56. 35	56. 55	5026	5000
Sun.	16	15. 36	15. 41	57. 15	57. 35	4975	4950
M.	17	15. 46	15. 51	57. 53	58. 11	4927	4905
Tu.	18	15. 56	16. 0	58. 27	58. 43	4885	4865
W.	19	16. 4	16. 7	58. 57	59. 8	4848	4834
Th.	20	16. 9	16. 11	59. 16	59. 22	4824	4817
F.	21	16. 12	16. 13	59. 27	59. 31	4811	4806
Sa.	22	16. 13	16. 13	59. 32	59. 32	4805	4805
Sun.	23	16. 13	16. 12	59. 31	59. 28	4806	4810
M.	24	16. 11	16. 10	59. 24	59. 19	4815	4821
Tu.	25	16. 8	16. 6	59. 12	59. 5	4830	4838
W.	26	16. 4	16. 1	58. 57	58. 47	4848	4860
Th.	27	15. 58	15. 55	58. 37	58. 26	4872	4886
F.	28	15. 52	15. 48	58. 13	58. 0	4902	4918
Sa.	29	15. 44	15. 40	57. 45	57. 30	4937	4956
Sun.	30	15. 36	15. 31	57. 14	56. 58	4976	4996
M.	31	15. 27	15. 22	56. 41	56. 24	5018	5040

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Pollux.	3	49. 59. 3	48. 19. 38	46. 40. 32	45. 1. 45	43. 23. 19	41. 45. 12	40. 7. 25	38. 29. 58
	4	36. 52. 51	35. 16. 4	33. 39. 36	32. 3. 29	30. 27. 42	28. 52. 15	27. 17. 9	25. 42. 23
	5	24. 7. 58							
Regulus.	5	60. 52. 43	59. 18. 11	57. 43. 56	56. 9. 59	54. 36. 19	53. 2. 56	51. 29. 49	49. 56. 58
	6	48. 24. 23	46. 52. 3	45. 19. 58	43. 48. 7	42. 16. 30	40. 45. 6	39. 13. 55	37. 42. 57
	7	36. 12. 11	34. 41. 37	33. 11. 13	31. 41. 1	30. 10. 59	28. 41. 7	27. 11. 24	25. 41. 50
	8	24. 12. 24							
Spica ♍	8	78. 10. 56	76. 41. 29	75. 12. 7	73. 42. 52	72. 13. 43	70. 44. 38	69. 15. 37	67. 46. 40
	9	66. 17. 46	64. 48. 54	63. 20. 4	61. 51. 14	60. 22. 26	58. 53. 37	57. 24. 47	55. 55. 56
	10	54. 27. 4	52. 58. 10	51. 29. 12	50. 0. 10	48. 31. 5	47. 1. 55	45. 32. 39	44. 3. 18
	11	42. 33. 50	41. 4. 15	39. 34. 32	38. 4. 41	36. 34. 42	35. 4. 35	33. 34. 17	32. 3. 50
	12	30. 33. 12	29. 2. 23	27. 31. 22	26. 0. 9	24. 28. 44	22. 57. 6	21. 25. 16	19. 53. 12
	13	18. 20. 55							
Antares.	13	64. 14. 33	62. 41. 59	61. 9. 9	59. 36. 3	58. 2. 42	56. 29. 5	54. 55. 11	53. 21. 1
	14	51. 46. 35	50. 11. 52	48. 36. 52	47. 1. 35	45. 26. 1	43. 50. 9	42. 13. 59	40. 37. 31
	15	39. 0. 45	37. 23. 41	35. 46. 20	34. 8. 40	32. 30. 43			
∝ Aquilæ.	15	- - -	- - -	- - -	- - -	87. 2. 53	85. 40. 38	84. 18. 12	82. 55. 35
	16	81. 32. 50	80. 9. 58	78. 47. 1	77. 24. 1	76. 0. 57	74. 37. 52	73. 14. 50	71. 51. 53
	17	70. 29. 0	69. 6. 16	67. 43. 43	66. 21. 22	64. 59. 16			

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Fomalhaut.	17	- - -	- - -	- - -	- - -	88. 5. 44	86. 28. 57	84. 51. 57	83. 14. 45
	18	81. 37. 23	79. 59. 51	78. 22. 12	76. 44. 27	75. 6. 34	73. 28. 37	71. 50. 36	70. 12. 34
	19	68. 34. 30	66. 56. 26	65. 18. 27	63. 40. 31	62. 2. 41	60. 24. 56	58. 47. 24	57. 10. 4
	20	55. 32. 56	53. 56. 3	52. 19. 33	50. 43. 27	49. 7. 45	47. 32. 35	45. 57. 59	44. 24. 0
	21	42. 50. 42							
α Arietis.	21	104. 54. 4	103. 8. 0	101. 21. 54	99. 35. 45	97. 49. 34	96. 3. 22	94. 17. 10	92. 30. 57
	22	90. 44. 44	88. 58. 31	87. 12. 19	85. 26. 7	83. 39. 57	81. 53. 49	80. 7. 43	78. 21. 40
	23	76. 35. 39	74. 49. 41	73. 3. 47	71. 17. 57	69. 32. 10	67. 46. 28	66. 0. 51	64. 15. 19
	24	62. 29. 52							
The Sun.	21	- - -	- - -	- - -	- - -	122. 25. 43	120. 46. 35	119. 7. 26	117. 28. 15
	22	115. 49. 4	114. 9. 51	112. 30. 39	110. 51. 28	109. 12. 18	107. 33. 8	105. 54. 1	104. 14. 54
	23	102. 35. 50	100. 56. 48	99. 17. 49	97. 38. 53	95. 59. 59	94. 21. 9	92. 42. 22	91. 3. 39
	24	89. 25. 0	87. 46. 25	86. 7. 55	84. 29. 30	82. 51. 9	81. 12. 54	79. 34. 44	77. 56. 39
	25	76. 18. 40	74. 40. 46	73. 2. 59	71. 25. 18	69. 47. 43	68. 10. 15	66. 32. 54	64. 55. 41
	26	63. 18. 34	61. 41. 34	60. 4. 44	58. 28. 1	56. 51. 26	55. 14. 59	53. 38. 42	52. 2. 34
	27	50. 26. 36	48. 50. 47	47. 15. 10	45. 39. 43	44. 4. 27	42. 29. 23	40. 54. 31	39. 19. 52
	28	37. 45. 26							

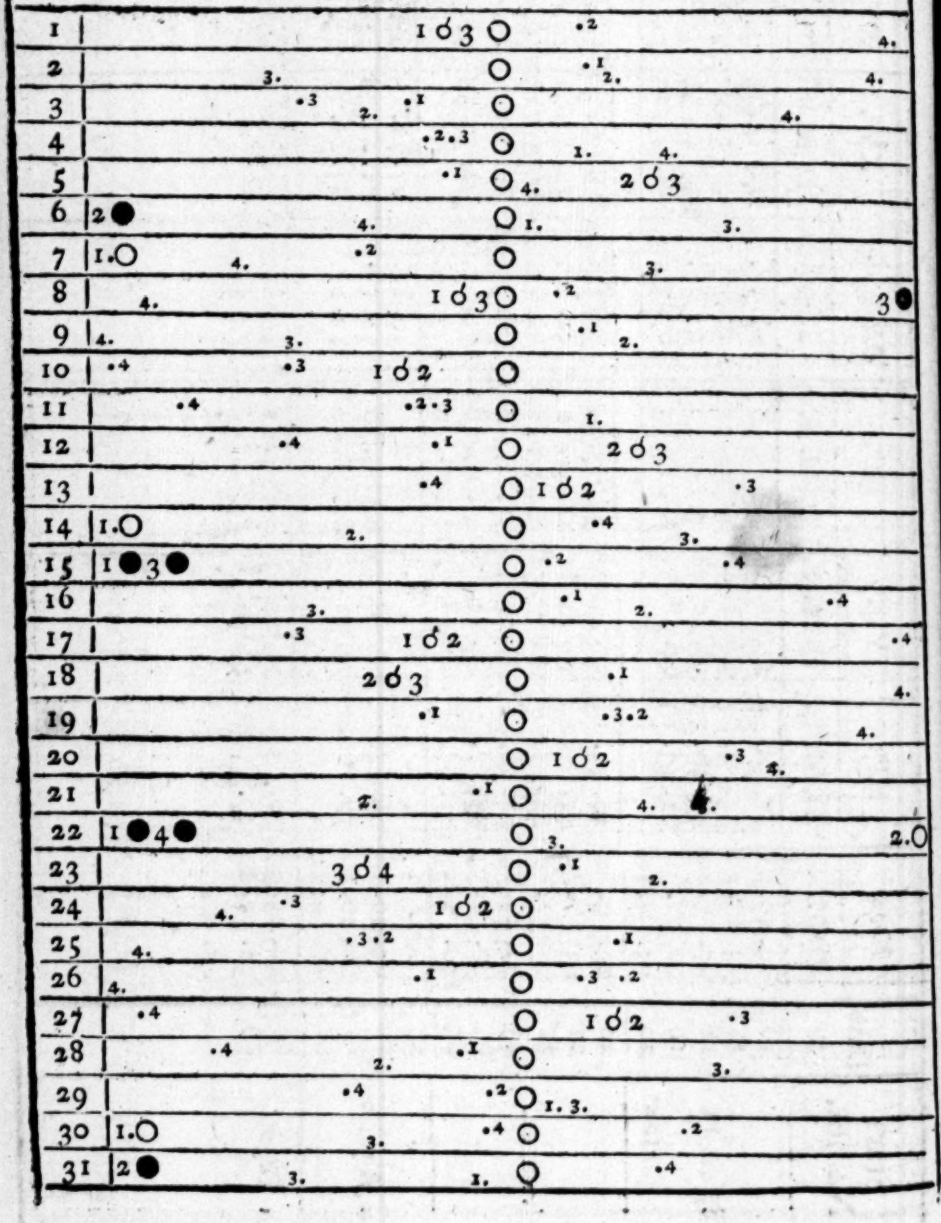
H

DISTANCES of MOON's *Center* from SUN, and from STARS *WEST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
The Sun.	4	- - -	- - -	- - -	- - -	- - -	- - -	39. 23. 52	40. 51. 14
	5	42. 18. 19	43. 45. 8	45. 11. 42	46. 38. 0	48. 4. 2	49. 29. 48	50. 55. 20	52. 20. 36
	6	53. 45. 38	55. 10. 25	56. 34. 59	57. 59. 19	59. 23. 25	60. 47. 19	62. 11. 1	63. 34. 31
	7	64. 57. 49	66. 20. 57	67. 43. 54	69. 6. 42	70. 29. 19	71. 51. 47	73. 14. 7	74. 36. 19
	8	75. 58. 23	77. 20. 20	78. 42. 12	80. 3. 58	81. 25. 38	82. 47. 13	84. 8. 45	85. 30. 13
	9	86. 51. 38	88. 13. 0	89. 34. 22	90. 55. 42	92. 17. 1	93. 38. 20	94. 59. 40	96. 21. 2
	10	97. 42. 24	99. 3. 49	100. 25. 17	101. 46. 49	103. 8. 24	104. 30. 4	105. 51. 49	107. 13. 40
	11	108. 35. 36	109. 57 39	111. 19. 50	112. 42. 10	114. 4. 36	115. 27. 11	116. 49. 55	118. 12. 49
	12	119. 35. 52	120. 59. 4						
Pollux.	9	24. 39. 52	26. 8. 21	27. 36. 51	29. 5. 21	30. 33. 52	32. 2. 25	33. 31. 1	34. 59. 39
	10	36. 28. 19	37. 57. 2	39. 25. 49	40. 54. 40	42. 23. 36	43. 52. 37	45. 21. 45	46. 50. 59
	11	48. 20. 20	49. 49. 48	51. 19. 24	52. 49. 9	54. 19. 2			
Regulus	11	- - -	- - -	- - -	- - -	17. 29. 56	18. 59. 47	20. 29. 51	22. 0. 7
	12	23. 30. 35	25. 1. 16	26. 32. 10	28. 3. 17	29. 34. 37	31. 6. 10	32. 37. 57	34. 9. 58
	13	35. 42. 14	37. 14. 45	38. 47. 32	40. 20. 34	41. 53. 51	43. 27. 25	45. 1. 15	46. 35. 21
	14	48. 9. 44	49. 44. 24	51. 19. 21	52. 54. 35	54. 30. 7	56. 5. 57	57. 42. 5	59. 18. 31
	15	60. 55. 15	62. 32. 17	64. 9. 37	65. 47. 15	67. 25. 11	69. 3. 25	70. 41. 57	72. 20. 48
	16	73. 59. 56							

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Spica ♍	16	19. 59. 21	21. 38. 44	23. 18. 26	24. 58. 26	26. 38. 43	28. 19. 18	30. 0. 10	31. 41. 18
	17	33. 22. 43	35. 4. 24	36. 46. 21	38. 28. 33	40. 11. 1	41. 53. 44	43. 36. 41	45. 19. 53
	18	47. 3. 19	48. 46. 57	50. 30. 48	52. 14. 52	53. 59. 8	55. 43. 36	57. 28. 16	59. 13. 5
	19	60. 58. 6	62. 43. 16	64. 28. 35	66. 14. 3	67. 59. 39	69. 45. 23	71. 31. 15	73. 17. 13
	20	75. 3. 18							
Antares.	20	29. 9. 2	30. 55. 13	32. 41. 30	34. 27. 52	36. 14. 19	38. 0. 50	39. 47. 25	41. 34. 3
	21	43. 20. 45	45. 7. 29	46. 54. 15	48. 41. 2	50. 27. 51	52. 14. 41	54. 1. 31	55. 48. 21
	22	57. 35. 12	59. 22. 3	61. 8. 53	62. 55. 42	64. 42. 30	66. 29. 17	68. 16. 1	70. 2. 44
	23	71. 49. 24	73. 36. 2	75. 22. 36	77. 9. 8	78. 55. 36	80. 42. 1	82. 28. 23	84. 14. 40
	24	86. 0. 54	87. 47. 3	89. 33. 8	91. 19. 8	93. 5. 4	94. 50. 55	96. 36. 41	98. 22. 22
	25	100. 7. 57	101. 53. 27	103. 38. 51	105. 24. 9	107. 9. 21			
∝ Aquilæ.	25	- - -	- - -	- - -	- - -	59. 49. 6	61. 11. 3	62. 33. 34	63. 56. 37
	26	65. 20. 10	66. 44. 11	68. 8. 33	69. 33. 16	70. 58. 20	72. 23. 38	73. 49. 8	75. 14. 50
	27	76. 40. 43	78. 6. 42	79. 32. 45	80. 58. 52	82. 25. 2	83. 51. 11	85. 17. 19	86. 43. 23
	28	88. 9. 22							
∝ Pegasi.	28	40. 25. 34	41. 54. 35	43. 24. 11	44. 54. 21	46. 24. 59	47. 56. 5	49. 27. 31	50. 59. 17
	29	52. 31. 20	54. 3. 36	55. 36. 1	57. 8. 32	58. 41. 6			

CONFIGURATIONS of the SATELLITES of JUPITER at Half an Hour past IX. o'Clock in the *Evening*.



Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
Tu.	1	Nicomede.
W.	2	
Th.	3	Oxf.T.endsCam.T.div.n
F.	4	*K. Geo. III. born* 1738.
Sa.	5	*Pr.Ern.Aug.born.*Bonif.
Sun.	6	*Whit-Sunday.*
M.	7	*Whit-Monday.*
Tu.	8	*Whit-Tuesday.*
W.	9	
Th.	10	
F.	11	*St, Barnabas.*
Sa.	12	
Sun.	13	*Trinity-Sunday.*
M,	14	On mor. of H.T. 1 ret.
Tu.	15	
W.	16	Oxford Term begins.
Th.	17	St. Alban.
F.	18	Trinity Term begins.
Sa.	19	[K. of W. Sax.
Sun.	20	*1st Su. aft. Tr.* Tr.of Edw.
M.	21	In 8 days of H.T. 2 ret.
Tu.	22	
W.	23	
Th.	24	*Nativity of St. John Bap.*
F.	25	
Sa.	26	
Sun.	27	*2d Sunday after Trinity.*
M.	28	In 15 days of H.T. 3 ret.
Tu.	29	*St. Peter.*
W.	30	

Phases of the MOON.

		D.	H.	M.
☽	*First Quarter* ----	8.	0.	48
○	Full Moon -----	15.	11.	50
☾	*Last Quarter* ----	22.	4.	1
●	New Moon ----	29.	12.	58

Other *Phenomena.*

D.	H.	M.	
3.	7.	55	☽ ☌ ♊
4.	11.	27	☽ ☌ ♋
6.	8.	33	☽ ☌ ♌
6.	11.	54	☽ ☌ ♃
6.	17.	49	☽ ☌ ♄
6.	21.	50	☽ ☍ ♌
7.	-	-	☿ ε ♊, ✱ 48′ N.
7.	14.	22	☽ ☌ ♌
7.	-	-	☿ ε ♊, ✱ 1′ S.
8.	4.	28	☽ ☌ ♌
9.	-	-	♅ Stationary.
10.	-	-	☿ ☿, ☿ 40′ N.
10.	20.	1	☽ ☌ ♍
13.	19.	11	☽ ☍ ♏
14.	3.	36	☽ ☌ ♏
14.	6.	59	☽ ☌ ♏
14.	8.	59	I. ☌ ♏ ✱ $14'\frac{3}{4}$ S. of ☽'s C.
14.	9.	$34\frac{1}{4}$	E. $12'\frac{3}{4}$
15.	3.	19	☽ 43 Ophiuchi.
16.	10.	1	☽ ☍ ♐
16.	17.	41	☽ ☌ ♐
19.	6.	19	☽ ☌ ♒
19.	9.	13	☽ ☍ ♒
19.	17.	49	☽ ☌ ♒
20.	15.	17	☽ ☌ ♒
21.	0.	40	☽ ☍ ♒
21.	17.	27	☉ enters ♋
22.	23.	2	☽ ☍ ♓
26.	9.	9	☽ ☌ Pleiadum.

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Aſcen. *in Time.*	Declin. *North.*	Equation of Time. *Sub.*	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
Tu.	1	2. 10. 12. 2	4. 34. 17, 2	22. 0. 14	2. 42, 5	8, 9
W.	2	2. 11. 9. 31	4. 38. 22, 7	22. 8. 24	2. 33, 6	9, 4
Th.	3	2. 12. 6. 58	4. 42. 28, 7	22. 16. 11	2. 24, 2	9, 7
F.	4	2. 13. 4. 24	4. 46. 35, 0	22. 23. 35	2. 14, 5	10, 1
Sa.	5	2. 14. 1. 49	4. 50. 41, 6	22. 30. 36	2. 4, 4	10, 3
Sun.	6	2. 14. 59. 12	4. 54. 48, 5	22. 37. 12	1. 54, 1	10, 7
M.	7	2. 15. 56. 35	4. 58. 55, 8	22. 43. 25	1. 43, 4	11, 0
Tu.	8	2. 16. 53. 56	5. 3. 3, 3	22. 49. 14	1. 32, 4	11, 2
W.	9	2. 17. 51. 17	5. 7. 11, 2	22. 54. 39	1. 21, 2	11, 5
Th.	10	2. 18. 48. 36	5. 11. 19, 2	22. 59. 39	1. 9, 7	11, 7
F.	11	2. 19. 45. 55	5. 15. 27, 5	23. 4. 16	0. 58, 0	11, 9
Sa.	12	2. 20. 43. 12	5. 19. 36, 0	23. 8. 28	0. 46, 1	12, 0
Sun.	13	2. 21. 40. 29	5. 23. 44, 6	23. 12. 16	0. 34, 1	12, 3
M.	14	2. 22. 37. 44	5. 27. 53, 5	23. 15. 39	0. 21, 8	12, 3
Tu.	15	2. 23. 34. 59	5. 32. 2, 4	23. 18. 38	0. 9, 5	12, 6
W.	16	2. 24. 32. 14	5. 36. 11, 5	23. 21. 12	*Add.* 3, 1	12, 6
Th.	17	2. 25. 29. 28	5. 40. 20, 8	23. 23. 22	0. 15, 7	12, 8
F.	18	2. 26. 26. 42	5. 44. 30, 1	23. 25. 7	0. 28, 5	12, 8
Sa.	19	2. 27. 23. 56	5. 48. 39, 5	23. 26. 27	0. 41, 3	12, 9
Sun.	20	2. 28. 21. 10	5. 52. 49, 0	23. 27. 22	0. 54, 2	12, 9
M.	21	2. 29. 18. 23	5. 56. 58, 5	23. 27. 52	1. 7, 1	12, 9
Tu.	22	3. 0. 15. 36	6. 1. 8, 1	23. 27. 57	1. 20, 0	13, 0
W.	23	3. 1. 12. 50	6. 5. 17, 6	23. 27. 38	1. 33, 0	12, 9
Th.	24	3. 2. 10. 4	6. 9. 27, 1	23. 26. 54	1. 45, 9	12, 8
F.	25	3. 3. 7. 17	6. 13. 36, 5	23. 25. 46	1. 58, 7	12, 8
Sa.	26	3. 4. 4. 31	6. 17. 45, 9	23. 24. 12	2. 11, 5	12, 7
Sun.	27	3. 5. 1. 45	6. 21. 55, 2	23. 22. 14	2. 24, 2	12, 5
M.	28	3. 5. 58. 59	6. 26. 4, 3	23. 19. 51	2. 36, 7	12, 4
Tu.	29	3. 6. 56. 13	6. 30. 13, 3	23. 17. 4	2. 49, 1	12, 2
W.	30	3. 7. 53. 27	6. 34. 22, 1	23. 13. 51	3. 1, 3	

Days	Time of ⊙'s Semidiam. passg Merid.	THE SUN's Semi-diameter	Hourly Motion.	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 8, 2	15. 48, 9	2. 23, 6	0. 006303	11. 16. 33
7	1. 8, 5	15. 48, 2	2. 23, 4	0. 006619	11. 16. 14
13	1. 8, 7	15. 47, 7	2. 23, 2	0. 006864	11. 15. 55
19	1. 8, 8	15. 47, 2	2. 23, 1	0. 007060	11. 15. 36
25	1. 8, 8	15. 47, 0	2. 23, 0	0. 007199	11. 15. 17

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite. *Emersions.*		II. Satellite. *Emersions.*		III. Satellite.		
Days.	H. M S.	Days.	H. M. S.	Days.	H. M. S.	
2	2. 45. 15	4	1. 1. 0	5	23. 37. 36	Im.
3	21. 13. 38	7	14. 19. 7	6	2. 54. 4	E.
5	15. 42. 2	11	3. 37. 1	13	3. 35. 29	Im.
* 7	10. 10. 19	14	16. 54. 51	13	6. 51. 16	E.
9	4. 38. 40	18	6. 12. 39	20	7. 33. 13	Im.
10	23. 6. 54	21	19. 30. 20	20	10. 48. 20	E.
12	17. 35. 16	25	8. 48. 12	27	11. 30. 51	Im.
14	12. 3. 32	28	22. 5. 57	27	14. 45. 18	E.
16	6. 31. 49					
18	1. 0. 4					
19	19. 28. 21			IV. Satellite.		
21	13. 56. 34					
23	8. 24. 53			8	11. 56. 13	Im.
25	2. 53. 9			8	16. 16. 31	E.
26	21. 21. 23			25	5. 53. 11	Im.
28	15. 49. 36			25	10. 10. 3	E.
30	10. 17. 56					

Days	THE PLANETS					
	Heliocentric		Geocentric		Declin.	Passage Merid.
	Long.	Lat.	Long.	Lat.		
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
	☿ Great Elong. 21d. *MERCURY.*					
1	4. 17. 8	7. 0 N	2. 25. 18	1. 59 N	25. 23 N	1. 5
4	5. 2. 14	6. 43	3. 0. 50	2. 6	25. 34	1. 17
7	5. 15. 55	6. 4	3. 5. 58	2. 5	25. 25	1. 28
10	5. 28. 22	5. 11	3. 10. 43	1. 59	25. 0	1. 36
13	6. 9. 44	4. 9	3. 15. 3	1. 44	24. 21	1. 43
16	6. 20. 14	3. 3	3. 18. 58	1. 24	23. 31	1. 47
19	7. 0. 1	1. 56	3. 22. 26	0. 58	22. 34	1. 49
22	7. 9. 16	0. 50 N	3. 25. 26	0. 27 N	21. 31	1. 49
25	7. 18. 5	0. 15 S	3. 27. 56	0. 9 S	20. 27	1. 46
28	7. 26. 37	1. 18	3. 29. 51	0. 50	19. 24	1. 41
30	8. 2. 11	1. 58	4. 0. 48	1. 18	18. 44	1. 37
	♀ *VENUS.*					
1	3. 28. 1	2. 19 N	2. 29. 46	1. 3 N	24. 31 N	1. 25
7	4. 7. 46	2. 42	3. 7. 5	1. 14	24. 31	1. 32
13	4. 17. 32	3. 1	3. 14. 23	1. 24	24. 5	1. 39
19	4. 27. 17	3. 14	3. 21. 40	1. 32	23. 15	1. 46
25	5. 7. 3	3. 21	3. 28. 56	1. 38	22. 0	1. 52
	♂ *MARS.*					
1	11. 5. 19	1. 46 S	0. 13. 18	1. 29 S	3. 53 N	20. 16
7	11. 9. 8	1. 44	0. 17. 46	1. 29	5. 37	20. 8
13	11. 12. 56	1. 41	0. 22. 11	1. 28	7. 18	19. 59
19	11. 16. 43	1. 38	0. 26. 35	1. 27	8. 55	19. 51
25	11. 20. 30	1. 34	1. 0. 56	1. 25	10. 29	19. 42
	♃ *JUPITER.*					
1	5. 8. 40	1. 8 N	4. 28. 6	1. 7 N	13. 12 N	5. 28
7	5. 9. 8	1. 9	4. 28. 48	1. 6	12. 56	5. 6
13	5. 9. 35	1. 9	4. 29. 34	1. 5	12. 39	4. 44
19	5. 10. 3	1. 9	5. 0. 25	1. 5	12. 21	4. 22
25	5. 10. 31	1. 9	5. 1. 19	1. 4	12. 1	4. 1
	♄ *SATURN.*					
1	5. 7. 31	1. 47 N	5. 1. 20	1. 46 N	12. 40 N	5. 41
7	5. 7. 44	1. 48	5. 1. 40	1. 46	12. 32	5. 17
13	5. 7. 57	1. 48	5. 2. 2	1. 45	12. 24	4. 54
19	5. 8. 9	1. 49	5. 2. 28	1. 44	12. 14	4. 31
25	5. 8. 22	1. 49	5. 2. 57	1. 44	12. 3	4. 8
	♅ *GEORGIAN.*					□ 24d. 22h.
1	6. 5. 56	0. 43 N	6. 2. 59	0. 44 N	0. 31 S	7. 37
11	6. 6. 4	0. 43	6. 2. 57	0. 43	0. 31	6. 55
21	6. 6. 11	0. 43	6. 3. 0	0. 43	0. 32	6. 14

Days of the Week.	Days of the Month.	THE MOON's Longitude. Noon. S. D. M. S.	Longitude. Midnight. S. D. M. S.	Latitude. Noon. D. M. S.	Latitude. Midnight. D. M. S.
Tu.	1	2. 21. 48. 23	2. 28. 10. 18	4. 59. 27 N	4. 54. 38 N
W.	2	3. 4. 28. 16	3. 10. 42. 19	4. 46. 15	4. 34. 30
Th.	3	3. 16. 52. 39	3. 22. 59. 25	4. 19. 37	4. 1. 52
F.	4	3. 29. 2. 59	4. 5. 3. 41	3. 41. 29	3. 18. 47
Sa.	5	4. 11. 1. 56	4. 16. 58. 17	2. 54. 0	2. 27. 25
Sun.	6	4. 22. 53. 16	4. 28. 47. 30	1. 59. 20	1. 29. 59
M.	7	5. 4. 41. 34	5. 10. 36. 12	0. 59. 40 N	0. 28. 38 N
Tu.	8	5. 16. 32. 2	5. 22. 29. 46	0. 2. 49 S	0. 34. 25 S
W.	9	5. 28. 30. 8	6. 4. 33. 44	1. 5. 50	1. 36. 48
Th.	10	6. 10. 41. 14	6. 16. 53. 13	2. 6. 57	2. 35. 57
F.	11	6. 23. 10. 16	6. 29. 32. 48	3. 3. 26	3. 29. 0
Sa.	12	7. 6. 1. 13	7. 12. 35. 48	3. 52. 15	4. 12. 47
Sun.	13	7. 19. 16. 38	7. 26. 3. 43	4. 30. 12	4. 44. 3
M.	14	8. 2. 56. 54	8. 9. 55. 52	4. 54. 2	4. 59. 45
Tu.	15	8. 17. 0. 5	8. 24. 8. 58	5. 1. 0	4. 57. 33
W.	16	9. 1. 21. 46	9. 8. 37. 38	4. 49. 22	4. 36. 26
Th.	17	9. 15. 55. 39	9. 23. 14. 55	4. 18. 56	3. 57. 6
F.	18	10. 0. 34. 30	10. 7. 53. 37	3. 31. 19	3. 2. 3
Sa.	19	10. 15. 11. 30	10. 22. 27. 29	2. 29. 50	1. 55. 16
Sun.	20	10. 29. 41. 3	11. 6. 51. 50	1. 18. 59	0. 41. 39 S
M.	21	11. 13. 59. 30	11. 21. 3. 54	0. 3. 55 S	0. 33. 37 N
Tu.	22	11. 28. 4. 54	0. 5. 2. 32	1. 10. 21 N	1. 45. 43
W.	23	0. 11. 56. 47	0. 18. 47. 43	2. 19. 16	2. 50. 29
Th.	24	0. 25. 35. 24	1. 2. 19. 54	3. 19. 1	3. 44. 31
F.	25	1. 9. 1. 17	1. 15. 39. 37	4. 6. 42	4. 25. 21
Sa.	26	1. 22. 14. 56	1. 28. 47. 13	4. 40. 20	4. 51. 29
Sun.	27	2. 5. 16. 31	2. 11. 42. 46	4. 58. 45	5. 2. 10
M.	28	2. 18. 5. 59	2. 24. 26. 7	5. 1. 46	4. 57. 36
Tu.	29	3. 0. 43. 12	3. 6. 57. 12	4. 49. 53	4. 38. 43
W.	30	3. 13. 8. 12	3. 19. 16. 13	4. 24. 20	4. 6. 58

Days of the Week.	Days of the Month.	Age.	THE MOON'S Passage Merid.	Right Ascension.		Declination.	
				Noon.	*Midnight.*	*Noon.*	*Midnight.*
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
Tu.	1	2	0. 50	80. 44	87. 56	28. 12 N	28. 22 N
W.	2	3	1. 46	95. 3	102. 4	28. 10	27. 36
Th.	3	4	2. 38	108. 54	115. 34	26. 41	25. 29
F.	4	5	3. 28	122. 2	128. 17	23. 59	22. 14
Sa.	5	6	4. 14	134. 20	140. 13	20. 16	18. 6
Sun.	6	7	4. 57	145. 55	151. 28	15. 47	13. 19
M.	7	8	5. 38	156. 55	162. 17	10. 44	8. 3
Tu.	8	9	6. 17	167. 36	172. 53	5. 17 N	2. 27 N
W.	9	10	6. 57	178. 11	183. 33	0. 25 S	3. 18 S
Th.	10	11	7. 38	188. 59	194. 33	6. 11	9. 3
F.	11	12	8. 21	200. 17	206. 12	11. 51	14. 35
Sa.	12	13	9. 8	212. 22	218. 47	17. 11	19. 38
Sun.	13	14	10. 0	225. 30	232. 31	21. 54	23. 53
M.	14	15	10. 58	239. 51	247. 28	25. 35	26. 54
Tu.	15	16	12. 0	255. 19	263. 22	27. 49	28. 17
W.	16	17	13. 3	271. 33	279. 44	28. 17	27. 47
Th.	17	18	14. 6	287. 51	295. 50	26. 48	25. 21
F.	18	19	15. 5	303. 37	311. 9	23. 29	21. 15
Sa.	19	20	15. 59	318. 26	325. 28	18. 41	15. 52
Sun.	20	21	16. 50	332. 16	338. 52	12. 50	9. 39
M.	21	22	17. 38	345. 17	351. 34	6. 22 S	3. 2 S
Tu.	22	23	18. 25	357. 46	3. 55	0. 19 N	3. 37 N
W.	23	24	19. 11	10. 4	16. 14	6. 52	10. 0
Th.	24	25	20. 0	22. 29	28. 48	12. 59	15. 48
F.	25	26	20. 50	35. 15	41. 49	18. 25	20. 47
Sa.	26	27	21. 43	48. 32	55. 23	22. 52	24. 39
Sun	27	28	22. 37	62. 21	69. 26	26. 6	27. 12
M.	28	29	23. 32	76. 33	83. 42	27. 56	28. 18
Tu.	29	1	♂	90. 49	97. 51	28. 18	27. 55
W.	30	2	0. 26	104. 46	111. 31	27. 12	26. 9

Days of the Week.	Days of the Month.	THE MOON's Semidiameter.		Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*		
		M. S.	M. S.	M. S.	M. S.	*Noon.*	*Midn.*
Tu.	1	15. 18	15. 13	56. 8	55. 52	5060	5081
W.	2	15. 9	15. 5	55. 36	55. 21	5102	5122
Th.	3	15. 1	14. 58	55. 8	54. 55	5138	5155
F.	4	14. 55	14. 53	54. 45	54. 36	5169	5181
Sa.	5	14. 51	14. 49	54. 29	54. 24	5190	5197
Sun.	6	14. 49	14. 49	54. 22	54. 22	5199	5199
M.	7	14. 49	14. 51	54. 24	54. 29	5197	5190
Tu.	8	14. 53	14. 55	54. 36	54. 46	5181	5167
W.	9	14. 59	15. 3	54. 59	55. 14	5150	5130
Th.	10	15. 8	15. 13	55. 31	55. 49	5108	5085
F.	11	15. 18	15. 24	56. 9	56. 31	5059	5031
Sa.	12	15. 31	15. 37	56. 55	57. 20	5000	4968
Sun.	13	15. 44	15. 50	57. 44	58. 8	4938	4908
M.	14	15. 57	16. 3	58. 31	58. 53	4880	4853
Tu.	15	16. 8	16. 13	59. 13	59. 32	4828	4805
W.	16	16. 17	16. 21	59. 47	59. 59	4787	4772
Th.	17	16. 23	16. 25	60. 8	60. 14	4761	4754
F.	18	16. 26	16. 25	60. 17	60. 16	4751	4752
Sa.	19	16. 24	16. 23	60. 12	60. 6	4757	4764
Sun.	20	16. 20	16. 18	59. 58	59. 48	4773	4786
M.	21	16. 14	16. 11	59. 36	59. 23	4800	4816
Tu.	22	16. 7	16. 3	59. 8	58. 53	4834	4853
W.	23	15. 58	15. 54	58. 37	58. 21	4872	4892
Th.	24	15. 50	15. 45	58. 5	57. 49	4912	4932
F.	25	15. 41	15. 36	57. 32	57. 16	4953	4973
Sa.	26	15. 32	15. 28	57. 0	56. 45	4994	5013
Sun.	27	15. 23	15. 19	56. 29	56. 14	5033	5053
M.	28	15. 15	15. 11	55. 59	55. 45	5072	5090
Tu.	29	15. 8	15. 4	55. 32	55. 19	5107	5124
W.	30	15. 1	14. 58	55. 7	54. 55	5140	5155

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Regulus.	1	- - -	- - -	- - -	- - -	58. 59. 43	57. 25. 12	55. 50. 56	54. 16. 54
	2	52. 43. 7	51. 9. 34	49. 36. 15	48. 3. 9	46. 30. 17	44. 57. 38	43. 25. 12	41. 52. 58
	3	40. 20. 57	38. 49. 10	37. 17. 34	35. 46. 10	34. 14. 57	32. 43. 56	31. 13. 5	29. 42. 25
	4	28. 11. 56	26. 41. 37	25. 11. 27	23. 41. 28	22. 11. 38			
Spica ♍	4	- - -	- - -	- - -		76. 10. 58	74. 41. 9	73. 11. 28	71. 41. 54
	5	70. 12. 26	68. 43. 5	67. 13. 49	65. 44. 38	64. 15. 32	62. 46. 31	61. 17. 32	59. 48. 37
	6	58. 19. 45	56. 50. 55	55. 22. 6	53. 53. 19	52. 24. 32	50. 55. 45	49. 26. 57	47. 58. 8
	7	46. 29. 18	45. 0. 26	43. 31. 30	42. 2. 30	40. 33. 27	39. 4. 19	37. 35. 6	36. 5. 46
	8	34. 36. 21	33. 6. 49	31. 37. 8	30. 7. 20	28. 37. 23	27. 7. 17	25. 37. 0	24. 6. 34
	9	22. 35. 56							
Antares.	9	68. 29. 27	66. 58. 34	65. 27. 29	63. 56. 11	62. 24. 39	60. 52. 53	59. 20. 53	57. 48. 37
	10	56. 16. 7	54. 43. 21	53. 10. 18	51. 36. 59	50. 3. 22	48. 29. 26	46. 55. 11	45. 20. 39
	11	43. 45. 47	42. 10. 36	40. 35. 5	38. 59. 14	37. 23. 3	35. 46. 31	34. 9. 38	32. 32. 23
	12	30. 54. 46							
∝ Aquilæ	12	85. 47. 0	84. 24. 53	83. 2. 32	81. 39. 58	80. 17. 13	78. 54. 18	77. 31. 16	76. 8. 8
	13	74. 44. 53	73. 21. 34	71. 58. 15	70. 34. 58	69. 11. 43	67. 48. 34	66. 25. 34	65. 2. 43
	14	63. 40. 5							
Fomalhaut	14	86. 29. 54	84. 52. 13	83. 14. 15	81. 35. 59	79. 57. 29	78. 18. 44	76. 39. 47	75. 0. 39
	15	73. 21. 20	71. 41. 51	70. 2. 16	68. 22. 36	66. 42. 50	65. 3. 1	63. 23. 13	61. 43. 28

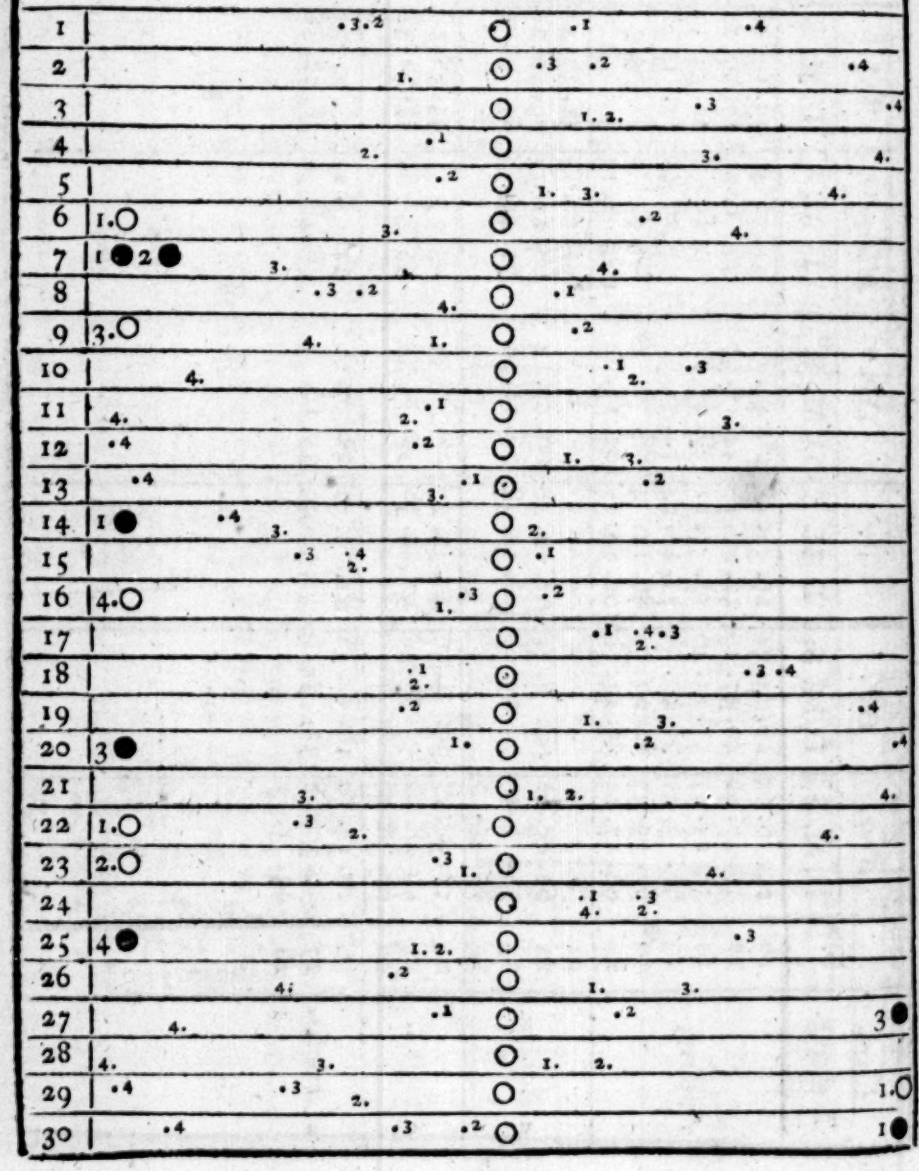
Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Fomalhaut.	16	60. 3. 46	58. 24. 9	56. 44. 44	55. 5. 33	53. 26. 35	51. 47. 53	50. 9. 39	48. 31. 54
	17	46. 54. 37	45. 18. 1	43. 42. 6	42. 6. 59	40. 32. 43			
∝ Arietis.	17	- - -	- - -	- - -	- - -	102. 8. 25	100. 19. 15	98. 30. 2	96. 40. 48
	18	94. 51. 33	93. 2. 17	91. 13. 3	89. 23. 50	87. 34. 39	85. 45. 31	83. 56. 28	82. 7. 30
	19	80. 18. 36	78. 29. 48	76. 41. 8	74. 52. 35	73. 4. 10	71. 15. 53	69. 27. 47	67. 39. 50
	20	65. 52. 2	64. 4. 26	62. 17. 1	60. 29. 49	58. 42. 48	56. 56. 1	55. 9. 28	53. 23. 9
	21	51. 37. 4	49. 51. 14	48. 5. 40	46. 20. 22	44. 35. 21	42. 50. 37	41. 6. 12	39. 22. 6
	22	37. 38. 19	35. 54. 53	34. 11. 50	32. 29. 8	30. 46. 50			
The Sun.	19	- - -	- - -	- - -	- - -	- - -	- - -	- - -	120. 20. 26
	20	118. 39. 37	116. 58. 56	115. 18. 24	113. 38. 2	111. 57. 50	110. 17. 49	108. 37. 59	106. 58. 20
	21	105. 18. 53	103. 39. 38	102. 0. 34	100. 21. 44	98. 43. 5	97. 4. 40	95. 26. 27	93. 48. 28
	22	92. 10. 41	90. 33. 8	88. 55. 48	87. 18. 41	85. 41. 48	84. 5. 9	82. 28. 44	80. 52. 33
	23	79. 16. 35	77. 40. 51	76. 5. 21	74. 30. 5	72. 55. 2	71. 20. 13	69. 45. 38	68. 11. 17
	24	66. 37. 9	65. 3. 15	63. 29. 36	61. 56. 9	60. 22. 57	58. 49. 58	57. 17. 13	55. 44. 42
	25	54. 12. 24	52. 40. 20	51. 8. 30	49. 36. 54	48. 5. 31	46. 34. 22	45. 3. 27	43. 32. 46
	26	42. 2. 19	40. 32. 7	39. 2. 10	37. 32. 28	36. 3. 1			

DISTANCES of MOON's *Center* from SUN, and from STARS *WEST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
The Sun.	3	- - -	- - -	- - -	- - -	40. 33. 43	41. 56. 52	43. 19. 52	44. 42. 44
	4	46. 5. 28	47. 28. 4	48. 50. 33	50. 12. 55	51. 35. 9	52. 57. 16	54. 19. 16	55 41. 11
	5	57. 2. 59	58. 24. 42	59. 46. 21	61. 7. 55	62. 29. 25	63. 50. 51	65. 12. 15	66. 33. 36
	6	67. 54. 55	69. 16. 11	70. 37. 27	71. 58. 43	73. 19. 58	74. 41. 13	76. 2. 29	77. 23. 46
	7	78. 45. 6	80. 6. 28	81. 27. 54	82. 49. 24	84. 10. 57	85. 32. 35	86. 54. 20	88. 16. 10
	8	89. 38. 6	91. 0. 9	92. 22. 20	93. 44. 40	95. 7. 8	96. 29. 46	97. 52. 35	99. 15. 34
	9	100. 38. 44	102. 2. 5	103. 25. 38	104. 49. 25	106. 13. 24	107. 37. 36	109. 2. 3	110. 26. 45
	10	111. 51. 41	113. 16. 53	114. 42. 21	116. 8. 6	117. 34. 7	119. 0. 25	120. 27. 1	
Regulus.	8	19. 27. 20	20. 56. 45	22. 26. 19	23. 56. 3	25. 25. 56	26. 55. 59	28. 26. 13	29. 56. 39
	9	31. 27. 16	32. 58. 5	34. 29. 6	36. 0. 21	37. 31. 50	39. 3. 33	40. 35. 31	42. 7. 44
	10	43. 40. 12	45. 12. 56	46. 45. 57	48. 19. 15	49. 52. 51	51. 26. 45	53. 0. 57	54. 35. 29
	11	56. 10. 19	57. 45. 29	59. 20. 58	60. 56. 48	62. 32. 58	64. 9. 29	65. 46. 22	67. 23. 36
	12	69. 1. 11	70. 39. 8	72. 17. 28	73. 56. 10	75. 35. 14			
Spica ♍	12	- - -	- - -	- - -	- - -	21. 34. 59	23. 14. 21	24. 54. 6	26. 34. 15
	13	28. 14. 46	29. 55. 40	31. 36. 57	33. 18. 36	35. 0. 37	36. 43. 0	38. 25. 45	40. 8. 51
	14	41. 52. 19	43. 36. 9	45 20. 18	47. 4. 49	48. 49. 39	50. 34. 49	52. 20. 18	54. 6. 5
	15	55. 52. 10	57. 38. 33	59. 25. 13	61. 12. 9	62. 59. 22	64. 46. 49	66. 34. 31	68. 22. 27
	16	70. 10. 36							

Stars Names.	Days	*Noon.*	IIIh.	VIh.	IXh.	*Midnight.*	XVh.	XVIIIh.	XXIh.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M. S.	D. M. S.	D. M. S.
Antares.	16	24. 16. 14	26. 4. 35	27. 53. 8	29. 41. 52	31. 30. 46	33. 19. 50	35. 9. 1	36. 58. 20
	17	38. 47. 46	40. 37. 19	42. 26. 56	44. 16. 37	46. 6. 23	47. 56. 12	49. 46. 2	51. 35. 54
	18	53. 25. 47	55. 15. 40	57. 5. 31	58. 55. 20	60. 45. 8	62. 34. 53	64. 24. 33	66. 14. 9
	19	68. 3. 41	69. 53. 6	71. 42. 24	73. 31. 36	75. 20. 40	77. 9. 36	78. 58. 24	80. 47. 3
	20	82. 35. 33	84. 23. 54	86. 12. 4	88. 0. 4	89. 47. 53	91. 35. 30	93. 22. 56	95. 10. 9
	21	96. 57. 11	98. 44. 0	100. 30. 37	102. 17. 2	104. 3. 13			
α Aquilæ.	21	- - -	- - -	- - -	- - -	57. 16. 17	58. 37. 42	59. 59. 43	61. 22. 18
	22	62. 45. 22	64. 8. 55	65. 32. 48	66. 57. 4	68. 21. 38	69. 46. 25	71. 11. 23	72. 36. 31
	23	74. 1. 49	75. 27. 11	76. 52. 38	78. 18. 6	79. 43. 37	81. 9. 6	82. 34. 31	83. 59. 52
	24	85. 25. 7							
α Pegasi.	24	37. 38. 11	39. 4. 59	40. 32. 27	42. 0. 34	43. 29. 14	44. 58. 26	46. 28. 2	47. 58. 0
	25	49. 28. 21	50. 58. 54	52. 29. 38	54. 0. 33	55. 31. 39	57. 2. 51	58. 34. 8	60. 5. 27
	26	61. 36. 46							
α Arietis.	26	17. 59. 50	19. 32. 38	21. 5. 52	22. 39. 28	24. 13. 21	25. 47. 31	27. 21. 49	28. 56. 15
	27	30. 30. 48	32. 5. 16	33. 39. 42	35. 14. 7	36. 48. 30	38. 22. 48	39. 57. 0	41. 31. 5
	28	43. 5. 2							

CONFIGURATIONS of the SATELLITES of JUPITER at Half an Hour past IX o'Clock in the *Evening*.



Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
Th.	1	
F.	2	Visitation of V. Mary.
Sa.	3	
Sun.	4	*3d Su. aft. Tr.* Tr. of St. M.
M.	5	In 3 weeks of H. T. 4 ret.
Tu.	6	Camb. Commencement.
W.	7	Trinity Term ends.
Th.	8	
F.	9	Camb. Term ends.
Sa.	10	
Sun.	11	*4th Sunday after Trinity.*
M.	12	Oxford Act.
Tu.	13	
W.	14	
Th.	15	Swithin.
F.	16	
Sa.	17	Oxford Term ends.
Sun.	18	*5th Sunday after Trinity.*
M.	19	
Tu.	20	Margaret.
W.	21	
Th.	22	Magdalen.
F.	23	
Sa.	24	
Sun.	25	*6th Su. aft. Tr. St. James.*
M.	26	St. Anne.
Tu.	27	
W.	28	
Th.	29	
F.	30	
Sa.	31	

Phases of the MOON.

	D.	H.	M.
☽ *First Quarter*	7.	16.	57
○ Full Moon	14.	19.	28
☾ *Last Quarter*	21.	10.	22
● New Moon	29.	3.	4

Other *Phenomena.*

D. H. M.

2. 0. 0 ☽ ☿
3. 15. 49 ☽ ☌ ☊
4. 3. 29 ☽ ♃
4. 5. 8 ☽ ☍ ☊
4. 5. 24 ☽ ♄
5. - - ☿ Stationary.
5. 11. 55 ☽ ☐ ☊
8. 4. 22 ☽ ☌ ♍
11. 4. 50 ☽ ☍ ♏
11. 16. 46 ☽ ☌ ♏
11. 19. 42 ☽ ☐ ♏
12. 13. 15 ☽ 43 Ophiuchi.
13. 19. 50 ☽ ☌ ♐
14. 3. 26 ☽ ☐ ♐
15. - - ♃ ♄, ♃ 40′ South.
16. 15. 33½ I. ☿ ♍, ✱ 16′¼ N. of ☽ 's C
16. 15. 59 E. ☿ ♍, ✱ 13′
16. 17. 32 ☽ ☌ ♍
17. 1. 52 ☽ ☌ ♒
17. 22. 41 ☽ ☌ ♒
18. 7. 47 ☽ ☍ ♒
20. 4. 58 ☽ ☌ ♓
23. 4. 17 ☉ enters ☊
23. 13. 23½ I. η Pleia. ✱ 8′¾ S of ☽ 's C
23. 14. 5¼ E. η Pleia. ✱ 12′
N.B. Several others are occulted.
25. 9. 2 ☽ ☍ ♉
25. - - ♀ ♄, ♀ 18′½ South.
26. - - ♀ ♃, ♀ 20′ North.
29. - - ☿ Stationary.
31. 20. 36 ☽ ♃

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Aſcen. *in Time.*	Declin. *North.*	Equation of Time. *Add.*	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
Th.	1	3. 8. 50. 40	6. 38. 30, 7	23. 10. 15	3. 13, 3	11, 7
F.	2	3. 9. 47. 54	6. 42. 39, 0	23. 6. 15	3. 25, 0	11, 5
Sa.	3	3. 10. 45. 7	6. 46. 47, 0	23. 1. 50	3. 36, 5	11, 2
Sun.	4	3. 11. 42. 21	6. 50. 54, 8	22. 57. 0	3. 47, 7	10, 8
M.	5	3. 12. 39. 34	6. 55. 2, 2	22. 51. 47	3. 58, 5	10, 5
Tu.	6	3. 13. 36. 47	6. 59. 9, 3	22. 46. 10	4. 9, 0	10, 1
W.	7	3. 14. 33. 59	7. 3. 16, 1	22. 40. 9	4. 19, 1	9, 8
Th.	8	3. 15. 31. 12	7. 7. 22, 4	22. 33. 46	4. 28, 9	9, 4
F.	9	3. 16. 28. 24	7. 11. 28, 2	22. 26. 58	4. 38, 3	8, 9
Sa.	10	3. 17. 25. 36	7. 15. 33, 8	22. 19. 46	4. 47, 2	8, 5
Sun.	11	3. 18. 22. 48	7. 19. 38, 8	22. 12. 12	4. 55, 7	8, 0
M.	12	3. 19. 20. 1	7. 23. 43, 4	22. 4. 15	5. 3, 7	7, 6
Tu.	13	3. 20. 17. 13	7. 27. 47, 6	21. 55. 56	5. 11, 3	7, 1
W.	14	3. 21. 14. 25	7. 31. 51, 3	21. 47. 14	5. 18, 4	6, 6
Th.	15	3. 22. 11. 38	7. 35. 54, 5	21. 38. 9	5. 25, 0	6, 2
F.	16	3. 23. 8. 52	7. 39. 57, 3	21. 28. 43	5. 31, 2	5, 7
Sa.	17	3. 24. 6. 6	7. 43. 59, 5	21. 18. 54	5. 36, 9	5, 2
Sun.	18	3. 25. 3. 20	7. 48. 1, 2	21. 8. 45	5. 42, 1	4, 6
M.	19	3. 26. 0. 35	7. 52. 2, 5	20. 58. 12	5. 46, 7	4, 1
Tu.	20	3. 26. 57. 51	7. 56. 3, 3	20. 47. 19	5. 50, 8	3, 6
W.	21	3. 27. 55. 8	8. 0. 3, 4	20. 36. 5	5. 54, 4	3, 1
Th.	22	3. 28. 52. 26	8. 4. 3, 0	20. 24. 30	5. 57, 5	2, 5
F.	23	3. 29. 49. 45	8. 8. 2, 1	20. 12. 34	6. 0, 0	2, 0
Sa.	24	4. 0. 47. 5	8. 12. 0, 7	20. 0. 18	6. 2, 0	1, 5
Sun.	25	4. 1. 44. 26	8. 15. 58, 7	19. 47. 42	6. 3, 5	0, 9
M.	26	4. 2. 41. 48	8. 19. 56, 1	19. 34. 45	6. 4, 4	0, 3
Tu.	27	4. 3. 39. 11	8. 23. 52, 9	19. 21. 30	6. 4, 7	0, 3
W.	28	4. 4. 36. 35	8. 27. 49, 2	19. 7. 55	6. 4, 4	0, 9
Th.	29	4. 5. 34. 0	8. 31. 44, 9	18. 54. 1	6. 3, 5	1, 5
F.	30	4. 6. 31. 25	8. 35. 40, 0	18. 39. 48	6. 2, 0	2, 0
Sa.	31	4. 7. 28. 52	8. 39. 34, 5	18. 25. 17	6. 0, 0	

Days	Time of ☉'s Semidiam. passg Merid.	THE SUN's Semi-diameter	Hourly Motion.	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 8, 7	15. 46, 9	2. 23, 0	0. 007253	11. 14. 58
7	1. 8, 4	15. 46, 9	2. 23, 0	0. 007211	11. 14. 39
13	1. 8, 1	15. 47, 1	2. 23, 0	0. 007093	11. 14. 20
19	1. 7, 6	15. 47, 5	2. 23, 2	0. 006923	11. 14. 1
25	1. 7, 1	15. 48, 1	2. 23, 3	0. 006699	11. 13. 42

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite. *Emersions.*		II. Satellite. *Emersions.*		III. Satellite.	
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.
2	4. 46. 10	2	11. 23. 36	4	15. 28. 34 Im.
3	23. 14. 31	6	0. 41. 20	4	18. 42. 22 E.
5	17. 42. 47	9	13. 59. 5	11	19. 26. 37 Im.
7	12. 11. 10	13	3. 16. 54	11	22. 39. 43 E.
9	6. 39. 27	16	16. 34. 44	18	23. 25. 0 Im.
11	1. 7. 52	20	5. 52. 36	19	2. 37. 22 E.
12	19. 36. 18	23	19. 10. 32	26	3. 23. 42 Im.
14	14. 4. 39	27	8. 28. 31	26	6. 35. 20 E.
16	8. 33. 6	30	21. 46. 34		
18	3. 1. 33				
19	21. 30. 3				
21	15. 58. 30				
23	10. 27. 7				
25	4. 55. 37				
26	23. 24. 12				
28	17. 52. 48				
30	12. 21. 28				

IV. Satellite.	
11	23. 50. 19 Im.
12	4. 3. 39 E.
28	17. 49. 11 Im.
28	21. 58. 44 E.

Days	Heliocentric Long.	Heliocentric Lat.	Geocentric Long.	Geocentric Lat.	Declin.	Passage Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M	H. M
	☿		*MERCURY.*		Inf. ☌ 18d. 20¼h.	
1	8. 4. 57	2. 17 S	4. 1. 10	1. 33 S	18. 24 N	1. 33
4	8. 13. 12	3. 13	4. 1. 49	2. 19	17. 32	1. 23
7	8. 21. 27	4. 4	4. 1. 45	3. 4	16. 48	1. 10
10	8. 29. 47	4. 51	4. 1. 2	3. 46	16. 16	0. 54
13	9. 8. 19	5. 33	3. 29. 39	4. 21	15. 59	0. 35
16	9. 17. 8	6. 8	3. 27. 48	4. 45	15. 57	0. 15
19	9. 26. 21	6. 36	3. 25. 46	4. 56	16. 9	23. 48
22	10. 6. 5	6. 54	3. 23. 49	4. 52	16. 34	23. 29
25	10. 16. 28	7. 0	3. 22. 17	4. 32	17. 8	23. 12
28	10. 27. 39	6. 51	3. 21. 25	4. 0	17. 48	22. 58
31	11. 9. 49	6. 25	3. 21. 27	3. 20	18. 28	22. 47
	♀		*VENUS.*			
1	5. 16. 47	3. 23 N	4. 6. 12	1. 41 N	20. 22 N	1. 58
7	5. 26. 31	3. 19	4. 13. 26	1. 41	18. 25	2. 2
13	6. 6. 14	3. 9	4. 20. 39	1. 39	16. 11	2. 7
19	6. 15. 56	2. 54	4. 27. 51	1. 33	13. 41	2. 10
25	6. 25. 36	2. 34	5. 5. 1	1. 25	11. 0	2. 14
	♂		*MARS.*			
1	11. 24. 17	1. 30 S	1. 5. 14	1. 23 S	11, 59 N	19. 34
7	11. 28. 2	1. 25	1. 9. 29	1. 21	13. 24	19. 26
13	0. 1. 46	1. 20	1. 13. 41	1. 18	14. 43	19. 18
19	0. 5. 29	1. 15	1. 17. 49	1. 15	15. 59	19. 10
25	0. 9. 10	1. 10	1. 21. 54	1. 11	17. 7	19. 2
	♃		*JUPITER.*			
1	5. 10. 58	1. 10 N	5. 2. 17	1. 3 N	11. 39 N	3. 40
7	5. 11. 26	1. 10	5. 3. 19	1. 3	11. 17	3. 19
13	5. 11. 53	1. 10	5. 4. 23	1. 2	10. 53	2. 58
19	5. 12. 21	1. 11	5. 5. 30	1. 2	10. 28	2. 38
25	5. 12. 48	1. 11	5. 6. 39	1. 2	10. 2	2. 19
	♄		*SATURN.*			
1	5. 8. 34	1. 49 N	5. 3. 28	1. 43 N	11. 51N	3. 45
7	5. 8. 47	1. 50	5. 4. 1	1. 43	11. 38	3. 22
13	5. 9. 0	1. 50	5. 4. 37	1. 42	11. 25	3. 0
19	5. 9. 12	1. 50	5. 5. 15	1. 42	11. 11	2. 38
25	5. 9. 25	1. 51	5. 5. 55	1. 42	10. 56	2. 17
	♅		*GEORGIAN.*			
1	6. 6. 19	0. 42 N	6. 3. 8	0. 42 N	0. 36 S	5. 33
11	6. 6. 27	0. 42	6. 3. 22	0. 42	0. 42	4. 53
21	6. 6. 35	0. 42	6. 3. 40	0. 41	0. 49	4. 14

Days of the Week.	Days of the Month.	THE MOON's Longitude. Noon.	Longitude. Midnight.	Latitude. Noon.	Latitude. Midnight.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
Th.	1	3.25.21.25	4. 1.23.59	3.46.53 N	3.24.21 N
F.	2	4. 7.24. 7	4.13.22. 5	2.59.39	2.33. 5
Sa.	3	4.19.18.16	4.25.13. 1	2. 4.56	1.35.29
Sun.	4	5. 1. 6.49	5. 7. 0. 9	1. 5. 4	0.33.56 N
M.	5	5.12.53.35	5.18.47.40	0. 2.24 N	0.29.15 S
Tu.	6	5.24.43. 3	6. 0.40.20	1. 0.44 S	1.31.44
W.	7	6. 6.40.10	6.12.43.17	2. 1.56	2.31. 4
Th.	8	6.18.50.16	6.25. 1.47	2.58.46	3.24.43
F.	9	7. 1.18.27	7. 7.40.49	3.48.33	4. 9.55
Sa.	10	7.14. 9.22	7.20.44.32	4.28.26	4.43.44
Sun.	11	7.27.26.32	8. 4.15.31	4.55.27	5. 3.12
M.	12	8.11.11.28	8.18.14.13	5. 6.40	5. 5.35
Tu.	13	8.25.23.20	9. 2.38.18	4.59.45	4.49. 2
W.	14	9. 9.58.20	9.17.22.30	4.33.29	4.13.13
Th.	15	9.24.49.49	10. 2.19. 8	3.48.30	3.19.41
F.	16	10. 9.49.22	10.17.19.21	2.47.18	2.12. 2
Sa.	17	10.24.48. 3	11. 2.14.29	1.34.31	0.55.33 S
Sun.	18	11. 9.37.50	11.16.57.25	0.15.51 S	0.23.48 N
M.	19	11.24.12.42	0. 1.23.18	1. 2.43 N	1.40.13
Tu.	20	0. 8.28.57	0.15.29.34	2.15.46	2.48.50
W.	21	0.22.25. 6	0.29.15.38	3.19. 0	3.45.56
Th.	22	1. 6. 1.19	1.12.42.15	4. 9.22	4.29. 6
F.	23	1.19.18.46	1.25.51. 0	4.45. 1	4.57. 2
Sa.	24	2. 2.19.16	2. 8.43.44	5. 5. 6	5. 9.17
Sun.	25	2.15. 4.42	2.21.22.21	5. 9.36	5. 6. 9
M.	26	2.27.36.55	3. 3.48.35	4.59. 5	4.48.32
Tu.	27	3. 9.57.32	3.16. 3.57	4.34.42	4.17.48
W.	28	3.22. 8. 2	3.28. 9.55	3.58. 5	3.35.46
Th.	29	4. 4. 9.49	4.10. 7.55	3.11.11	2.44.34
F.	30	4.16. 4.28	4.21.59.41	2.16.15	1.46.30
Sa.	31	4.27.53.52	5. 3.47.19	1.15.41	0.44. 4

Days of the Week.	Days of the Month.	Age.	THE MOON's Passage Merid.	Right Ascension.		Declination.	
				Noon.	*Midnight.*	*Noon.*	*Midnight.*
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
Th.	1	3	1.16	118. 5	124.28	24.48 N	23.11 N
F.	2	4	2. 4	130.38	136.37	21.20	19.16
Sa.	3	5	2.48	142.25	148. 3	17. 2	14.38
Sun.	4	6	3.29	153.33	158.56	12. 6	9.29
M.	5	7	4. 8	164.15	169.31	6.46	3.59 N
Tu.	6	8	4.47	174.45	180. 0	1.10 N	1.40 S
W.	7	9	5.27	185.19	190.43	4.31 S	7.21
Th.	8	10	6. 8	196.14	201.54	10. 8	12.52
F.	9	11	6.53	207.47	213.54	15.31	18. 1
Sa.	10	12	7.42	220.16	226.57	20.22	22.31
Sun.	11	13	8.36	233.56	241.14	24.24	25.59
M.	12	14	9.35	248.50	256.42	27.12	28. 1
Tu.	13	15	10.39	264.47	272.59	28.23	28.15
W.	14	16	11.43	281.14	289.26	27.38	26.31
Th.	15	17	12.45	297.31	305.25	24.56	22.54
F.	16	18	13.43	313. 4	320.28	20.27	17.45
Sa.	17	19	14.38	327.38	334.34	14.45	11.33
Sun.	18	20	15.28	341.18	347.51	8.13	4.47 S
M.	19	21	16.17	354.16	0.37	1.20 S	2. 5 N
Tu.	20	22	17. 4	6.54	13.10	5.27 N	8.42
W.	21	23	17.53	19.28	25.49	11.49	14.44
Th.	22	24	18.43	32.16	38.49	17.28	19.56
F.	23	25	19.35	45.28	52.14	22. 8	24. 3
Sa.	24	26	20.29	59. 7	66. 6	25.38	26.52
Sun.	25	27	21.23	73. 9	80.14	27.45	28.17
M.	26	28	22.17	87.18	94.19	28.36	28.13
Tu.	27	29	23. 9	101.13	108. 0	27 39	26.46
W.	28	30	23.57	114.37	121. 4	25.34	24. 4
Th.	29	1	○	127.19	133.22	22.20	20.22
F.	30	2	0.43	139.15	144.58	18.12	15.52
Sa.	31	3	1.25	150.32	155.58	13.24	10.49

Days of the Week.	Days of the Month.	THE MOON's Semidiameter.		Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*		
		M. S.	M. S.	M. S.	M. S.	*Noon.*	*Midn.*
Th.	1	14. 55	14. 53	54. 45	54. 36	5169	5181
F.	2	14. 51	14. 49	54. 28	54. 22	5191	5199
Sa.	3	14. 48	14. 47	54. 17	54. 15	5206	5209
Sun.	4	14. 47	14. 47	54. 14	54. 15	5210	5209
M.	5	14. 48	14. 49	54. 18	54. 24	5205	5197
Tu.	6	14. 52	14. 54	54. 32	54. 42	5186	5173
W.	7	14. 58	15. 2	54. 55	55. 11	5155	5134
Th.	8	15. 7	15. 12	55. 28	55. 48	5112	5086
F.	9	15. 18	15. 25	56. 10	56. 34	5058	5027
Sa.	10	15. 32	15. 39	57. 0	57. 27	4994	4960
Sun.	11	15. 47	15. 54	57. 55	58. 22	4924	4891
M.	12	16. 2	16. 9	58. 49	59. 16	4858	4824
Tu.	13	16. 16	16. 22	59. 41	60. 3	4794	4768
W.	14	16. 27	16. 32	60. 23	60. 39	4743	4724
Th.	15	16. 35	16. 37	60. 51	60. 59	4710	4700
F.	16	16. 38	16. 38	61. 3	61. 2	4696	4697
Sa.	17	16. 37	16. 34	60. 57	60. 48	4703	4714
Sun.	18	16. 31	16. 27	60. 37	60. 22	4727	4745
M.	19	16. 22	16. 17	60. 4	59. 44	4766	4790
Tu.	20	16. 11	16. 5	59. 24	59. 2	4815	4842
W.	21	15. 59	15. 53	58. 39	58. 16	4870	4898
Th.	22	15. 47	15. 41	57. 54	57. 33	4926	4952
F.	23	15. 35	15. 29	57. 11	56. 51	4980	5005
Sa.	24	15. 24	15. 19	56. 32	56. 14	5029	5053
Sun.	25	15. 15	15. 10	55. 57	55. 41	5075	5095
M.	26	15. 7	15. 3	55. 27	55. 14	5114	5130
Tu.	27	14. 59	14. 56	55. 1	54. 50	5148	5162
W.	28	14. 54	14. 52	54. 41	54. 32	5174	5186
Th.	29	14. 50	14. 48	54. 25	54. 19	5195	5203
F.	30	14. 47	14. 46	54. 14	54. 10	5210	5215
Sa.	31	14. 45	14. 45	54. 7	54. 7	5219	5219

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Spica ♍	1	85. 52. 43	84. 21. 52	82. 51. 10	81. 20. 37	79. 50. 12	78. 19. 56	76. 49. 47	75. 19. 46
	2	73. 49. 52	72. 20. 5	70. 50. 25	69. 20. 51	67. 51. 24	66. 22. 2	64. 52. 46	63. 23. 35
	3	61. 54. 29	60. 25. 27	58. 56. 30	57. 27. 36	55. 58. 46	54. 30. 0	53. 1. 15	51. 32. 33
	4	50. 3. 53	48. 35. 14	47. 6. 35	45. 37. 57	44. 9. 20	42. 40. 42	41. 12. 2	39. 43. 21
	5	38. 14. 39	36. 45. 54	35. 17. 7	33. 48. 16	32. 19. 21	30. 50. 22	29. 21. 18	27. 52. 8
	6	26. 22. 53							
Antares.	6	72. 16. 13	70. 46. 46	69. 17. 12	67. 47. 30	66. 17. 41	64. 47. 43	63. 17. 35	61. 47. 17
	7	60. 16. 48	58. 46. 7	57. 15. 14	55. 44. 8	54. 12. 49	52. 41. 17	51. 9. 31	49. 37. 30
	8	48. 5. 14	46. 32. 42	44. 59. 54	43. 26. 49	41. 53. 26	40. 19. 45	38. 45. 45	37. 11. 26
	9	35. 36. 48	34. 1. 50	32. 26. 31	30. 50. 51	29. 14. 49			
∝ Aquilæ.	9	- - -	- - -	- - -	- - -	84. 29. 47	83. 8. 58	81. 47. 56	80. 26. 42
	10	79. 5. 15	77. 43. 38	76. 21. 55	75. 0. 4	73. 38. 7	72. 16. 3	70. 54. 0	69. 31. 56
	11	68. 9. 52	66. 47. 53	65. 26. 0	64. 4. 15	62. 42. 40			
Fomalhaut.	11	- - -	- - -	- - -	- - -	85. 13. 37	83. 36. 56	81. 59. 53	80. 22. 29
	12	78. 44. 43	77. 6. 39	75. 28. 17	73. 49. 39	72. 10. 45	70. 31. 35	68. 52. 14	67. 12. 42
	13	65. 33. 0	63. 53. 7	62. 13. 12	60. 33. 14	58. 53. 13	57. 13. 11	55. 33. 16	53. 53. 31
	14	52. 13. 56	50. 34. 31	48. 55. 33	47. 17. 2	45. 38. 58	44. 1. 35	42. 24. 54	40. 49. 1
	15	39. 14. 3							

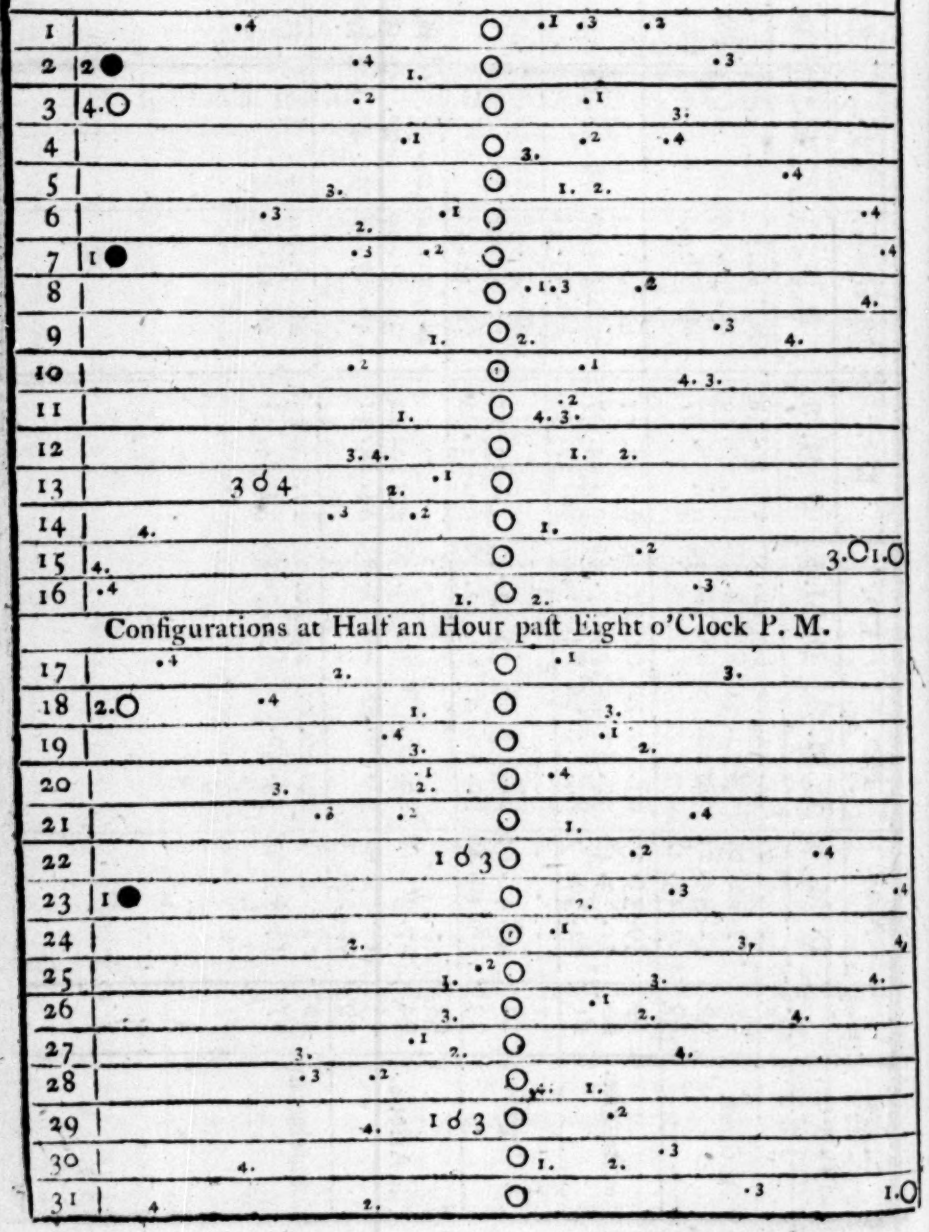
Stars Names.	Days	*Noon.*	III^{h}.	VI^{h}.	IX^{h}.	*Midnight.*	XV^{h}.	XVIII^{h}.	XXI^{h}.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
	15	100. 33. 47	98. 42. 14	96. 50. 34	94. 58. 47	93. 6. 51	91. 14. 49	89. 22. 45	87. 30. 38
	16	85. 38. 28	83. 46. 18	81. 54. 9	80. 2. 2	78. 9. 58	76. 17. 57	74. 26. 1	72. 34. 12
∝ Arietis.	17	70. 42. 29	68. 50. 55	66. 59. 31	65. 8. 18	63. 17. 15	61. 26. 25	59. 35. 48	57. 45. 26
	18	55. 55. 18	54. 5. 27	52. 15. 53	50. 26. 38	48. 37. 40	46. 49. 2	45. 0. 45	43. 12. 49
	19	41. 25. 16							
	19	73. 0. 13	71. 13. 46	69. 27. 40	67. 41. 57	65. 56. 35	64. 11. 36	62. 27. 1	60. 42. 51
Aldebaran.	20	58. 59. 4	57. 15. 42	55. 32. 46	53. 50. 18	52. 8. 16	50. 26. 42	48. 45. 38	47. 5. 3
	21	45. 24. 59	43. 45. 28	42. 6. 29	40. 28. 5	38. 50. 16			
	19	121. 47. 30	120. 6. 28	118. 25. 45	116. 45. 20	115. 5. 14	113. 25. 26	111. 45. 58	110. 6. 49
	20	108. 28. 0	106. 49. 30	105. 11. 21	103. 33. 31	101. 56. 2	100. 18. 53	98. 42. 5	97. 5. 36
	21	95. 29. 28	93. 53. 41	92. 18. 13	90. 43. 5	89. 8. 16	87. 33. 47	85. 59. 37	84. 25. 46
The Sun.	22	82. 52. 15	81. 19. 3	79. 46. 11	78. 13. 36	76. 41. 20	75. 9. 22	73. 37. 40	72. 6. 16
	23	70. 35. 10	69. 4. 21	67. 33. 49	66. 3. 32	64. 33. 33	63. 3. 48	61. 34. 19	60. 5. 5
	24	58. 36. 7	57. 7. 24	55. 38. 55	54. 10. 41	52. 42. 40	51. 14. 53	49. 47. 19	48. 19. 58
	25	46. 52. 51	45. 25. 57	43. 59. 15	42. 32. 46	41. 6. 29	39. 40. 24		
Spica ♍	31	53. 17. 0	51. 48. 17	50. 19. 36	48. 50. 57	47. 22. 20	45. 53. 44	44. 25. 8	42. 56. 33
	A. 1	41. 27. 59							

DISTANCES of MOON's *Center* from SUN, and from STARS ***WEST*** of her.

Stars Names.	Days	*Noon.*	III^{h}.	VI^{h}.	IX^{h}.	*Midnight.*	XV^{h}.	XVIII^{h}.	XXI^{h}.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
The Sun.	3	38. 36. 1	39. 57. 13	41. 18. 23	42. 39. 32	44. 0. 39	45. 21. 45	46. 42. 51	48. 3. 56
	4	49. 25. 0	50. 46. 4	52. 7. 8	53. 28. 13	54. 49. 19	56. 10. 26	57. 31. 35	58. 52. 47
	5	60. 14. 1	61. 35. 18	62. 56. 39	64. 18. 4	65. 39. 33	67. 1. 7	68. 22. 48	69. 44. 34
	6	71. 6. 27	72. 28. 27	73. 50. 35	75. 12. 51	76. 35. 15	77. 57. 48	79. 20. 32	80. 43. 26
	7	82. 6. 30	83. 29. 46	84. 53. 14	86. 16. 55	87. 40. 49	89. 4. 56	90. 29. 18	91. 53. 55
	8	93. 18. 47	94. 43. 55	96. 9. 20	97. 35. 2	99. 1. 1	100. 27. 17	101. 53. 53	103. 20. 48
	9	104. 48. 2	106. 15. 36	107. 43. 30	109. 11. 46	110. 40. 22	112. 9. 20	113. 38. 41	115. 8. 24
	10	116. 38. 29	118. 8. 57	119. 39. 50	121. 11. 6	122. 42. 47			
Regulus.	7	- - -	- - -	- - -	- - -	45. 43. 17	47. 14. 48	48. 46. 33	50. 18. 33
	8	51. 50. 49	53. 23. 20	54. 56. 7	56. 29. 12	58. 2. 34	59. 36. 14	61. 10. 14	62. 44. 32
	9	64. 19. 10	65. 54. 8	67. 29. 27	69. 5. 7	70. 41. 8	72. 17. 31	73. 54. 17	75. 31. 26
	10	77. 8. 58							
Spica ♍	10	23. 9. 24	24. 47. 14	26. 25. 29	28. 4. 9	29. 43. 13	31. 22. 42	33. 2. 38	34. 42. 57
	11	36. 23. 43	38. 4. 54	39. 46. 31	41. 28. 33	43. 11. 1	44. 53. 56	46. 37. 15	48. 21. 1
	12	50. 5. 12	51. 49. 49	53. 34. 51	55. 20. 18	57. 6. 9	58. 52. 25	60. 39. 3	62. 26. 6
	13	64. 13. 32							
Antares.	13	18. 19. 9	20. 6. 56	21. 55. 6	23. 43. 37	25. 32. 30	27. 21. 43	29. 11. 15	31. 1. 6
	14	32. 51. 15	34. 41. 41	36. 32. 23	38. 23. 19	40. 14. 31	42. 5. 57	43. 57. 34	45. 49. 22
	15	47. 41. 22	49. 33. 31	51. 25. 47	53. 18. 11	55. 10. 42	57. 3. 19	58. 55. 57	60. 48. 40

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Antares.	16	62. 41. 25	64. 34. 11	66. 26. 55	68. 19. 38	70. 12. 20	72. 4. 58	73. 57. 31	75. 49. 58
	17	77. 42. 20	79. 34. 34	81. 26. 38	83. 18. 33	85. 10. 19	87. 1. 54	88. 53. 17	90. 44. 27
	18	92. 35. 24	94. 26. 7	96. 16. 34	98. 6. 47	99. 56. 44	101. 46. 25	103. 35. 48	105. 24. 53
	19	107. 13. 42							
α Aquilæ.	19	59. 35. 20	61. 0. 12	62. 25. 30	63. 51. 11	65. 17. 13	66. 43. 34	68. 10. 6	69. 36. 50
	20	71. 3. 46	72. 30. 44	73. 57. 45	75. 24. 47	76. 51. 50	78. 18. 48	79. 45. 40	81. 12. 26
	21	82. 39. 5	84. 5. 34	85. 31. 51	86. 57. 55	88. 23. 45			
α Pegasi.	21	- - -	- - -	- - -	- - -	40. 41. 56	42. 11. 15	43. 40. 58	45. 11. 0
	22	46. 41. 20	48. 11. 56	49. 42. 43	51. 13. 41	52. 44. 48	54. 15. 59	55. 47. 11	57. 18. 26
	23	58. 49. 42	60. 20. 56	61. 52. 6	63. 23. 12	64. 54. 11			
α Arietis.	23	- - -	- - -	- - -	- - -	21. 21. 32	22. 55. 6	24. 28. 46	26. 2. 31
	24	27. 36. 18	29. 10. 8	30. 43. 56	32. 17. 42	33. 51. 27	35. 25. 4	36. 58. 36	38. 32. 1
	25	40. 5. 21	41. 38. 32	43. 11. 35	44. 44. 31	46. 17. 18	47. 49. 58	49. 22. 29	50. 54. 52
	26	52. 27. 6							
Aldebaran.	26	23. 4. 8	24. 26. 51	25. 50. 21	27. 14. 33	28. 39. 23	30. 4. 48	31. 30. 37	32. 56. 51
	27	34. 23. 29	35. 50. 20	37. 17. 22	38. 44. 31	40. 11. 43			

CONFIGURATIONS of the SATELLITES of JUPITER at a Quarter past IX o'Clock in the *Evening*.



Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
Sun.	1	7*th Su. aft. Tr.* Lammas [day.
M.	2	
Tu.	3	
W.	4	
Th.	5	
F.	6	Transfig. of our Lord.
Sa.	7	Name of Jesus.
Sun.	8	8*th Sunday after Trinity.*
M.	9	
Tu.	10	St. Lawrence.
W.	11	*Prs. of Brunswick born.*
Th.	12	*Pr. of Wales born* 1762.
F.	13	
Sa.	14	
Sun.	15	9*thSu.af.Tr.* Assumption.
M.	16	*Duke of York born.*
Tu.	17	
W.	18	
Th.	19	
F.	20	
Sa.	21	*Duke of Clarence born.*
Sun.	22	10*th Sunday aft. Trinity.*
M.	23	
Tu.	24	*St. Bartholomew.*
W.	25	
Th.	26	
F.	27	
Sa.	28	St. Augustine.
Sun.	29	11*thSu.aft.Tr.* Beheading [of St. John Baptist.
M.	30	
Tu.	31	

Phases of the MOON.

	D.	H.	M.
☽ *First Quarter*	6.	6.	55
○ Full Moon	13.	2.	48
☾ *Last Quarter*	19.	19.	14
● New Moon	27.	19.	0

Other *Phenomena.*

D.	H.	M.	
1.	8.	20	☽ ☍ ♀
1.	18.	31	☽ ☌ ☊
3.	-	-	♀ ☌ ☊, ✱ 35′ N.
4.	11.	35	☽ ☍ ♍
7.	13.	47	☽ ☍ ♏
8.	2.	2	☽ ☍ ♏
8.	5.	5	☽ ☌ ♏
8.	23.	3	☽ 43 Ophiuchi.
10.	6.	14	☽ ☍ ♐
10.	-	-	♀ ☍ ♍, ✱ 6′ S.
10.	13.	56	☽ ☌ ♐
13.	1.	10	☽ ☍ ♑
13.	3.	56	☽ ☌ ♑
13.	12.	22¾	I. ♒, ✱ 13′¾ N. of ☽'s C.
13.	13.	14	E. ♒, ✱ 8′ N.
14.	8.	28	☽ ☍ ♒
14.	17.	19	☽ ☍ ♒
16.	13.	3	☽ ☌ ♓
16.	-	-	♀ ☍ ♍, ✱ 55′ N.
19.	-	-	♃ ☍ ☊, ✱ 20′ N.
19.	20.	36	☽ ☍ Pleiadum.
21.	14.	44	☽ ☍ ♉
22.	11.	30	☽ ☍ Aurigæ.
23.	10.	39	☉ enters ♎
24.	3.	28	☽ ☍ ♊
27.	-	-	☉ eclipsed, partly visible.
28.	14.	34	☽ ☌ ♃
28.	-	-	♂ ☍ ♉, ✱ 32′ S.
31.	17.	43	☽ ☍ ♍

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Ascen. *in Time.*	Declin. *North.*	Equation of Time. *Add.*	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
Sun.	1	4. 8. 26. 19	8. 43. 28, 3	18. 10. 27	5. 57, 3	3, 3
M.	2	4. 9. 23. 47	8. 47. 21, 6	17. 55. 21	5. 54, 0	3, 9
Tu.	3	4. 10. 21. 16	8. 51. 14, 2	17. 39. 56	5. 50, 1	4, 5
W.	4	4. 11. 18. 45	8. 55. 6, 2	17. 24. 14	5. 45, 6	5, 2
Th.	5	4. 12. 16. 16	8. 58. 57, 6	17. 8. 15	5. 40. 4	5, 8
F.	6	4. 13. 13. 46	9. 2. 48, 4	16. 52. 0	5. 34, 6	6, 4
Sa.	7	4. 14. 11. 18	9. 6. 38, 5	16. 35. 28	5. 28, 2	7, 0
Sun.	8	4. 15. 8. 50	9. 10. 28, 0	16. 18. 40	5. 21, 2	7, 6
M.	9	4. 16. 6. 23	9. 14. 16, 9	16. 1. 37	5. 13, 6	8, 2
Tu.	10	4. 17. 3. 57	9. 18. 5, 3	15. 44. 18	5. 5, 4	8, 8
W.	11	4. 18. 1. 32	9. 21. 53, 0	15. 26. 44	4. 56, 6	9, 4
Th.	12	4. 18. 59. 8	9. 25. 40, 1	15. 8. 56	4. 47, 2	10, 0
F.	13	4. 19. 56. 45	9. 29. 26, 8	14. 50. 53	4. 37, 2	10, 5
Sa.	14	4. 20. 54. 23	9. 33. 12, 7	14. 32. 35	4. 26, 7	11, 0
Sun.	15	4. 21. 52. 3	9. 36. 58, 3	14. 14. 4	4. 15, 7	11, 6
M.	16	4. 22. 49. 44	9. 40. 43, 3	13. 55. 19	4. 4, 1	12, 1
Tu.	17	4. 23. 47. 26	9. 44. 27, 6	13. 36. 21	3. 52, 0	12, 5
W.	18	4. 24. 45. 11	9. 48. 11, 6	13. 17. 9	3. 39, 5	13, 1
Th.	19	4. 25. 42. 57	9. 51. 55, 2	12. 57. 45	3. 26 4	13, 5
F.	20	4. 26. 40. 44	9. 55. 38, 1	12. 38. 8	3. 12, 9	13, 9
Sa.	21	4. 27. 38. 34	9. 59. 20, 6	12. 18. 19	2. 59, 0	14, 4
Sun.	22	4. 28. 36. 25	10. 3. 2, 7	11. 58. 19	2. 44, 6	14, 9
M.	23	4. 29. 34. 18	10. 6. 44, 4	11. 38. 7	2. 29, 7	15, 3
Tu.	24	5. 0. 32. 13	10. 10. 25, 6	11. 17. 43	2. 14, 4	15, 6
W.	25	5. 1. 30. 10	10. 14. 6, 5	10. 57. 9	1. 58, 8	16, 1
Th.	26	5. 2. 28. 9	10. 17. 47, 0	10. 36. 24	1. 42, 7	16, 5
F.	27	5. 3. 26. 9	10. 21. 27, 0	10. 15. 29	1. 26, 2	16, 9
Sa.	28	5. 4. 24. 11	10. 25. 6, 7	9. 54. 24	1. 9, 3	17, 2
Sun.	29	5. 5. 22. 14	10. 28. 45, 9	9. 33. 10	0. 52, 1	17, 6
M.	30	5. 6. 20. 19	10. 32. 24, 9	9. 11. 46	0. 34, 5	17, 9
Tu.	31	5. 7. 18. 26	10. 36. 3, 4	8. 50. 14	0. 16, 6	

Days	Time of ☉'s Semidiam. passg Merid.	THE SUN's Semi-diameter	Hourly Motion.	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 6, 6	15. 48, 9	2. 23, 6	0. 006330	11. 13. 20
7	1. 6, 1	15. 49, 8	2. 23, 9	0. 005922	11. 13. 1
13	1. 5, 6	15. 50, 8	2. 24, 2	0. 005456	11. 12. 42
19	1. 5, 1	15. 51, 9	2. 24, 6	0. 004959	11. 12. 22
25	1. 4, 7	15. 53, 1	2. 24, 8	0. 004415	11. 12. 3

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite.		II. Satellite.		III. Satellite.	
Emersions.		*Emersions.*			
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.
1	6. 50. 7	3	11. 4. 45	2	7. 22. 52 Im.
3	1. 18. 50	7	0. 22. 58	2	10. 33. 48 E.
4	19. 47. 34	10	13. 41. 14	9	11. 22. 33 Im.
6	14. 16. 22			9	14. 32. 41 E.
8	8. 45. 7				
10	3. 13. 58				

Days	THE PLANETS Heliocentric Long.	Heliocentric Lat.	Geocentric Long.	Geocentric Lat.	Declin.	Passage Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
	☿ Gr. Elong. 7d.		*MERCURY.*			
1	11. 14. 7	6. 11 S	3. 21. 39	3. 4 S	18. 42 N	22. 46
4	11. 27. 50	5. 14	3. 22. 58	2. 16	19. 16	22. 42
7	0. 12. 52	3. 51	3. 25. 14	1. 28	19. 40	22. 42
10	0. 29. 15	2. 2 S	3. 28. 26	0. 41 S	19. 50	22. 45
13	1. 16. 53	0. 6 N	4. 2. 29	0. 2 N	19. 41	22, 52
16	2. 5. 26	2. 20	4. 7. 16	0. 39	19. 6	23. 2
19	2. 24. 22	4. 21	4. 12. 37	1. 8	18. 7	23. 13
22	3. 13. 1	5. 53	4. 18. 19	1. 28	16. 45	23. 26
25	4. 0. 48	6. 45	4. 24. 13	1. 41	15. 3	23. 38
28	4. 17. 19	7. 0	5. 0. 9	1. 46	13. 5	23. 51
31	5. 2. 23	6. 43	5. 6. 2	1. 45	10. 56	☌
	♀		*VENUS.*			
1	7. 6. 50	2. 5 N	5. 13. 21	1. 12 N	7. 39 N	2. 17
7	7. 16. 26	1. 37	5. 20. 27	0. 57	4. 40	2. 20
13	7. 26. 1	1. 6	5. 27. 32	0. 40	1. 36 N	2. 22
19	8. 5. 34	0. 33 N	6. 4. 34	0. 21	1. 30 S	2. 25
25	8. 15. 6	0. 1 S	6. 11. 33	0. 0	4. 35	2. 28
	♂		*MARS.*			
1	0. 13. 27	1. 3 S	1. 26. 35	1. 6 S	18. 21 N	18. 53
7	0. 17. 5	0. 57	2. 0. 30	1. 2	19. 16	18. 47
13	0. 20. 42	0. 51	2. 4. 19	0. 57	20. 6	18. 40
19	0. 24. 16	0. 45	2. 8. 3	0. 52	20. 50	18. 33
25	0. 27. 49	0. 39	2. 11. 42	0. 46	21. 28	18. 26
	♃		*JUPITER.*			
1	5. 13. 20	1. 11 N	5. 8. 2	1. 2 N	9. 31 N	1. 57
7	5. 13. 48	1. 12	5. 9. 15	1. 1	9. 3	1. 38
13	5. 14. 15	1. 12	5. 10. 30	1. 1	8. 35	1. 20
19	5. 14. 43	1. 12	5. 11. 46	1. 1	8. 6	1. 2
25	5. 15. 10	1. 12	5. 13. 2	1. 1	7. 37	0. 45
	♄		*SATURN.*			
1	5. 9. 40	1. 51 N	5. 6. 42	1. 42 N	10. 38 N	1. 53
7	5. 9. 52	1. 52	5. 7. 25	1. 42	10. 22	1. 32
13	5. 10. 5	1. 52	5. 8. 8	1. 42	10. 6	1. 12
19	5. 10. 18	1. 52	5. 8. 53	1. 42	9. 49	0. 53
25	5. 10. 30	1. 53	5. 9. 38	1. 42	9. 32	0. 33
	♅		*GEORGIAN.*			
1	6. 6. 44	0. 42 N	6. 4. 5	0. 41 N	1. 0 S	3. 32
11	6. 6. 51	0. 42	6. 4. 32	0. 41	1. 11	2. 55
21	6. 6. 59	0. 42	6. 5. 3	0. 40	1. 23	2. 30

Days of the Week.	Days of the Month.	THE MOON's Longitude. Noon.	Longitude. Midnight.	Latitude. Noon.	Latitude. Midnight.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
Sun.	1	5. 9.40.24	5.15.33.29	0.11.57 N	0.20.18 S
M.	2	5.21.27. 0	5.27.21.25	0.52.24 S	1.24. 4
Tu.	3	6. 3.17.12	6. 9.14.53	1.54.57	2.24.46
W.	4	6.15.15. 0	6.21.18. 8	2.53.12	3.19.56
Th.	5	6.27.24.51	7. 3.35.47	3.44.41	4. 7. 5
F.	6	7. 9.51.28	7.16.12.22	4.26.51	4.43.39
Sa.	7	7.22.39. 4	7.29.12. 4	4.57. 7	5. 7. 0
Sun.	8	8. 5.51.43	8.12.38.17	5.12.55	5.14.38
M.	9	8.19.31.53	8.26.32.33	5.11.53	5. 4.28
Tu.	10	9. 3.40. 6	9.10.54.11	4.52.16	4.35.16
W.	11	9.18.14.14	9.25.39.32	4.13.33	3.47.18
Th.	12	10. 3. 9. 9	10.10.42. 5	3.16.54	2.42.49
F.	13	10.18.17.11	10.25.53.12	2. 5.41	1.26.12
Sa.	14	11. 3.28.57	11.11. 3.13	0.45.12 S	0. 3.30 S
Sun.	15	11.18.34.53	11.26. 2.58	0.38. 3 N	1.18.40 N
M.	16	0. 3.26.37	0.10.45. 9	1.57.33	2.34. 2
Tu.	17	0.17.58. 1	0.25. 4.52	3. 7.36	3.37.45
W.	18	1. 2. 5.30	1. 8.59.50	4. 4.12	4.26.40
Th.	19	1.15.47.57	1.22.29.59	4.45. 1	4.59.11
F.	20	1.29. 6.12	2. 5.36.56	5. 9. 9	5.14.59
Sa.	21	2.12. 2.31	2.18.23.20	5.16.47	5.14.40
Sun.	22	2.24.39.49	3. 0.52.23	5. 8.47	4.59.21
M.	23	3. 7. 1.26	3.13. 7.22	4.46.32	4.30.34
Tu.	24	3.19.10.34	3.25.11.27	4.11.42	3.50. 8
W.	25	4. 1.10.20	4. 7. 7.32	3.26.10	3. 0. 2
Th.	26	4.13. 3.23	4.18.58.12	2.32. 2	2. 2.29
F.	27	4.24.52.18	5. 0.45.55	1.31.40	0.59.54 N
Sa.	28	5. 6.39.20	5.12.32.52	0.27.28 N	0. 5.15 S
Sun.	29	5.18.26.44	5.24.21.17	0.37.57 S	1.10.18
M.	30	6. 0.16.50	6. 6.13.39	1.42. 1	2.12.44
Tu.	31	6.12.12. 6	6.18.12.33	2.42. 8	3. 9.56

Days of the Week.	Days of the Month.	THE MOON's Age.	Passage Merid.	Right Ascension.		Declination.	
				Noon.	*Midnight.*	*Noon.*	*Midnight.*
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
Sun.	1	4	2. 5	161. 18	166. 35	8. 8 N	5. 23 N
M.	2	5	2. 44	171. 48	177. 1	2. 35 N	0. 14 S
Tu.	3	6	3. 23	182. 15	187. 33	3. 4 S	5. 53
W.	4	7	4. 3	192. 55	198. 24	8. 40	11. 24
Th.	5	8	4. 46	204. 3	209. 54	14. 3	16. 36
F.	6	9	5. 32	215. 58	222. 17	19. 0	21. 14
Sa.	7	10	6. 23	228. 52	235. 46	23. 14	24. 59
Sun.	8	11	7. 19	242. 57	250. 25	26. 26	27. 32
M.	9	12	8. 19	258. 9	266. 5	28. 14	28. 30
Tu.	10	13	9. 22	274. 9	282. 17	28. 17	27. 35
W.	11	14	10. 26	290. 24	298. 25	26. 25	24. 45
Th.	12	15	11. 26	306. 17	313. 57	22. 40	20. 11
F.	13	16	12. 24	321. 24	328. 39	17. 22	14. 16
Sa.	14	17	13. 18	335. 41	342. 32	10. 57	7. 29
Sun.	15	18	14. 9	349. 15	355. 51	3. 56 S	0. 22 S
M.	16	19	14. 59	2. 23	8. 52	3. 10 N	6. 37 N
Tu.	17	20	15. 49	15. 21	21. 52	9. 57	13. 6
W.	18	21	16. 40	28. 27	35. 6	16. 2	18. 43
Th.	19	22	17. 33	41. 51	48. 42	21. 8	23. 14
F.	20	23	18. 28	55. 39	62. 40	25. 0	26. 26
Sa.	21	24	19. 23	69. 45	76. 52	27. 29	28. 11
Sun.	22	25	20. 17	83. 57	90. 59	28. 30	28. 27
M.	23	26	21. 9	97. 56	104. 45	28. 3	27. 18
Tu.	24	27	21. 59	111. 25	117. 55	26. 15	24. 54
W.	25	28	22. 45	124. 13	130. 21	23. 16	21. 25
Th.	26	29	23. 29	136. 17	142. 4	19. 21	17. 6
F.	27	1	0	147. 42	153. 11	14. 41	12. 9
Sa.	28	2	0. 10	158. 34	163. 53	9. 30	6. 47
Sun.	29	3	0. 49	169. 8	174. 21	4. 0 N	1. 10 N
M.	30	4	1. 28	179. 35	184. 50	1. 40 S	4. 30 S
Tu.	31	5	2. 8	190. 9	195. 34	7. 19	10. 4

Days of the Week.	Days of the Month.	THE MOON's Semidiameter.		Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*		
		M. S.	M. S.	M. S.	M. S.	*Noon.*	*Midn.*
Sun.	1	14. 45	14. 46	54. 8	54. 11	5218	5214
M.	2	14. 47	14. 49	54. 15	54. 21	5209	5201
Tu.	3	14. 51	14. 54	54. 29	54. 40	5190	5175
W.	4	14. 57	15. 1	54. 53	55. 8	5158	5138
Th.	5	15. 6	15. 11	55. 25	55. 44	5116	5091
F.	6	15. 17	15. 23	56. 5	56. 29	5064	5033
Sa.	7	15. 30	15. 38	56. 54	57. 21	5002	4967
Sun.	8	15. 45	15. 53	57. 49	58. 17	4932	4897
M.	9	16. 1	16. 8	58. 46	59. 14	4861	4827
Tu.	10	16. 16	16. 23	59. 42	60. 8	4793	4761
W.	11	16. 29	16. 35	60. 31	60. 51	4734	4710
Th.	12	16. 40	16. 43	61. 8	61. 20	4690	4676
F.	13	16. 45	16. 45	61. 27	61. 30	4668	4664
Sa.	14	16. 45	16. 43	61. 28	61. 21	4666	4675
Sun.	15	16. 40	16. 36	61. 10	60. 54	4687	4707
M.	16	16. 30	16. 24	60. 35	60. 12	4729	4757
Tu.	17	16. 18	16. 11	59. 48	59. 22	4786	4817
W.	18	16. 3	15. 56	58. 55	58. 28	4850	4883
Th.	19	15. 49	15. 41	58. 1	57. 35	4917	4950
F.	20	15. 35	15. 28	57. 10	56. 46	4981	5012
Sa.	21	15. 22	15. 16	56. 23	56. 1	5041	5069
Sun.	22	15. 11	15. 6	55. 42	55. 25	5094	5116
M.	23	15. 2	14. 58	55. 10	54. 56	5136	5154
Tu.	24	14. 55	14. 52	54. 44	54. 33	5170	5185
W.	25	14. 50	14. 48	54. 25	54. 18	5195	5205
Th.	26	14. 46	14. 45	54. 13	54. 9	5211	5217
F.	27	14. 45	14. 44	54. 6	54. 5	5221	5222
Sa.	28	14. 44	14. 45	54. 5	54. 6	5222	5221
Sun.	29	14. 45	14. 46	54. 9	54. 13	5217	5211
M.	30	14. 48	14. 50	54. 19	54. 26	5203	5194
Tu.	31	14. 52	14. 55	54. 35	54. 45	5182	5169

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	IIIh.	VIh.	IXh.	*Midnight.*	XVh.	XVIIIh.	XXIh.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Spica ♍	1	41. 27. 59	39. 59. 24	38. 30. 50	37. 2. 14	35. 33. 39	34. 5. 2	32. 36. 24	31. 7. 43
	2	29. 39. 1	28. 10. 16	26. 41. 28	25. 12. 36	23. 43. 42	22. 14. 44	20. 45. 42	19. 16. 37
	3	17. 47. 27							
Antares.	3	63. 39. 34	62. 10. 4	60. 40. 28	59. 10. 46	57. 40. 55	56. 10. 57	54. 40. 49	53. 10. 33
	4	51. 40. 7	50. 9. 31	48. 38. 43	47. 7. 44	45. 36. 34	44. 5. 12	42. 33. 37	41. 1. 49
	5	39. 29. 47	37. 57. 30	36. 24. 58	34. 52. 11	33. 19. 7			
	5	- - -	- - -	- - -	- - -	88. 0. 34	86. 42. 7	85. 23. 30	84. 4. 42
α Aquilæ.	6	82. 45. 42	81. 26. 34	80. 7. 17	78. 47. 53	77. 28. 21	76. 8. 41	74. 48. 58	73. 29. 10
	7	72. 9. 20	70. 49. 28	69. 29. 37	68. 9. 47	66. 49. 59			
	7	- - -	- - -	- - -	- - -	89. 54. 36	88. 21. 41	86. 48. 24	85. 14. 44
	8	83. 40. 42	82. 6. 18	80. 31. 35	78. 56. 30	77. 21. 5	75. 45. 19	74. 9. 15	72 32. 53
Fomalhaut.	9	70. 56. 14	69. 19. 17	67. 42. 6	66. 4. 42	64. 27. 4	62. 49. 13	61. 11. 14	59. 33. 9
	10	57. 54. 52	56. 16. 41	54. 38. 28	53. 0. 19	51. 22. 15	49. 44. 17	48. 6. 38	46. 29. 22
	11	44. 52. 30	43. 16. 13	41. 40. 34	40. 5. 40	38. 31. 35			
	11	- - -	- - -	- - -	- - -	99. 44. 52	97. 53. 25	96. 1. 41	94. 9. 41
	12	92. 17. 23	90. 24. 52	88. 32. 7	86. 39. 12	84. 46. 4	82. 52. 47	80. 59. 22	79. 5. 50
α Arietis.	13	77. 12. 12	75. 18. 30	73. 24. 46	71. 31. 0	69. 37. 13	67. 43. 26	65. 49. 42	63. 56. 2
	14	62. 2. 27	60. 8. 59	58. 15. 39	56. 22. 29	54. 29. 27	52. 36. 38	50. 44. 5	48. 51. 46
	15	46. 59. 43							

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Aldebaran.	15	78. 33. 54	76. 43. 7	74. 52. 36	73. 2. 25	71. 12. 31	69. 22. 57	67. 33. 46	65. 44. 57
	16	63. 56. 31	62. 8. 29	60. 20. 54	58. 33. 46	56. 47. 4	55. 0. 51	53. 15. 10	51. 29. 59
	17	49. 45. 21	48. 1. 16	46. 17. 47	44. 34. 55	42. 52. 41	41. 11. 3	39. 30. 11	37. 50. 4
	18	36. 10. 43	34. 32. 13	32. 54. 37	31. 17. 57	29. 42. 15			
Pollux.	18	- - -	- - -	- - -	- - -	71. 8. 38	69. 26. 20	67. 44. 25	66. 2. 57
	19	64. 21. 53	62. 41. 13	61. 0. 57	59. 21. 4	57. 41. 35	56. 2. 29	54. 23. 44	52. 45. 22
	20	51. 7. 22							
The Sun.	17	- - -	- - -	- - -	120. 46. 30	119. 7. 35	117. 29. 5	115. 50. 59	114. 13. 20
	18	112. 36. 4	110. 59. 14	109. 22. 50	107. 46. 49	106. 11. 14	104. 36. 3	103. 1. 16	101. 26. 54
	19	99. 52. 56	98. 19. 22	96. 46. 11	95. 13. 24	93. 41. 0	92. 8. 59	90. 37. 20	89. 6. 3
	20	87. 35. 8	86. 4. 33	84. 34. 19	83. 4. 25	81. 34. 51	80. 5. 37	78. 36. 42	77. 8. 6
	21	75. 39. 48	74. 11. 48	72. 44. 4	71. 16. 38	69. 49. 28	68. 22. 35	66. 55. 55	65. 29. 32
	22	64. 3. 23	62. 37. 28	61. 11. 45	59. 46. 17	58. 21. 1	56. 55. 59	55. 31. 7	54. 6. 28
	23	52. 42. 0	51. 17. 42	49. 53. 35	48. 29. 37	47. 5. 50	45. 42. 11	44. 18. 41	42. 55. 19
	24	41. 32. 6	40. 9. 0	38. 46. 1					
Antares.	29	- - -	- - -	- - -	- - -	72. 37. 4	71. 7. 55	69. 38. 45	68. 9. 30
	30	66. 40. 13	65. 10. 52	63. 41. 26	62. 11. 56	60. 42. 21	59. 12. 40	57. 42. 54	56. 13. 1
	31	54. 43. 3	53. 12. 58	51. 42. 47	50. 12. 28	48. 42. 3	47. 11. 30	45. 40. 49	44. 10. 0
	S. 1	42. 39. 2							

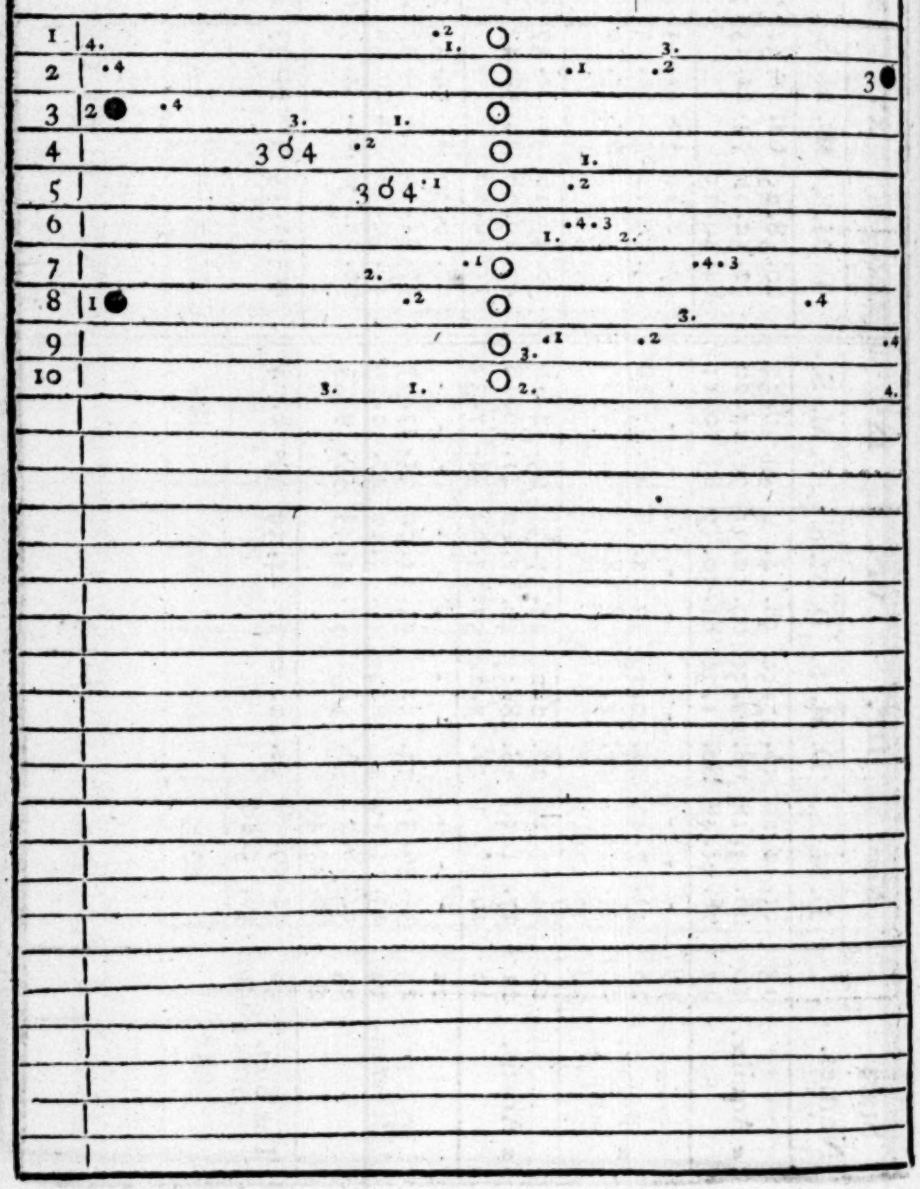
IX.

DISTANCES of MOON's *Center* from SUN, and from STARS *WEST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
	1	- - -	- - -	- - -	- - -	- - -	- - -	39. 20. 59	40. 42. 18
	2	42. 3. 40	43. 25. 5	44. 46. 35	46. 8. 10	47. 29. 49	48. 51. 33	50. 13. 24	51. 35. 20
	3	52. 57. 23	54. 19. 32	55. 41. 49	57. 4. 13	58. 26. 45	59. 49. 25	61. 12. 15	62. 35. 14
The Sun.	4	63. 58. 23	65. 21. 42	66. 45. 12	68. 8. 55	69. 32. 48	70. 56. 54	72. 21. 13	73. 45. 46
	5	75. 10. 32	76. 35. 33	78. 0. 51	79. 26. 23	80. 52. 12	82. 18. 17	83. 44. 40	85. 11. 20
	6	86. 38. 18	88. 5. 34	89. 33. 9	91. 1. 5	92. 29. 19	93. 57. 55	95. 26. 52	96. 56. 11
	7	98. 25. 52	99. 55. 56	101. 26. 22	102. 57. 13	104. 28. 27	106. 0. 6	107. 32. 8	109. 4. 37
	8	110. 37. 30	112. 10. 49	113. 44. 34	115. 18. 44	116. 53. 21	118. 28. 23	120. 3. 52	
	6	18. 53. 36	20. 27. 55	22. 2. 35	23. 37. 36	25. 12. 58	26. 48. 41	28. 24. 47	30. 1. 15
Spica ♍	7	31. 38. 6	33. 15. 20	34. 52. 57	36. 30. 59	38. 9. 24	39. 48. 14	41. 27. 29	43. 7. 10
	8	44. 47. 15	46. 27. 46	48. 8. 43	49. 50. 7	51. 31. 56	53. 14. 12	54. 56. 55	56. 40. 4
	9	58. 23. 40	60. 7. 43	61. 52. 13	63. 37. 10	65. 22. 34			
	9	- - -	- - -	- - -	- - -	19. 28. 13	21. 14. 2	23. 0. 17	24. 46. 59
	10	26. 34. 7	28. 21. 42	30. 9. 41	31. 58. 6	33. 46. 56	35. 36. 10	37. 25. 47	39. 15. 46
	11	41. 6. 8	42. 56. 52	44. 47. 56	46. 39. 19	48. 31. 2	50. 23. 4	52. 15. 22	54. 7. 57
Antares.	12	56. 0. 47	57. 53. 52	59. 47. 9	61. 40. 38	63. 34. 19	65. 28. 10	67. 22. 9	69. 16. 16
	13	71. 10. 29	73. 4. 47	74. 59. 8	76. 53. 32	78. 47. 58	80. 42. 24	82. 36. 47	84. 31. 8
	14	86. 25. 26	88. 19. 39	90. 13. 45	92. 7. 43	94. 1. 34	95. 55. 14	97. 48. 44	99. 42. 1
	15	101. 35. 6							

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
	15	55. 12. 26	56. 37. 50	58. 4. 0	59. 30. 54	60. 58. 25	62. 26. 32	63. 55. 2	65. 23. 58
α Aquilæ.	16	66. 53. 18	68. 22. 50	69. 52. 31	71. 22. 20	72. 52. 18	74. 22. 15	75. 52. 9	77. 22. 1
	17	78. 51. 48	80. 21. 30	81. 50. 57	83. 20. 11	84. 49. 15			
	17	- - -	- -	- - -	- - -	37. 2. 10	38. 32. 45	40. 3. 55	41. 35. 35
	18	43. 7. 42	44. 40. 13	46. 12. 58	47. 45. 58	49. 19. 11	50. 52. 25	52. 25. 40	53. 58. 57
α Pegasi.	19	55. 32. 14	57. 5. 24	58. 38. 28	60. 11. 26	61. 44. 17	63. 17. 0	64. 49. 30	66. 21. 48
	20	67. 53. 57							
	20	24. 27. 20	26. 2. 29	27. 37. 31	29. 12. 26	30. 47. 16	32. 21. 57	33. 56. 27	35. 30. 48
α Arietis.	21	37. 4. 59	38. 38. 57	40. 12. 42	41. 46. 16	43. 19. 38	44. 52. 47	46. 25. 44	47. 58. 30
	22	49. 31. 3	51. 3. 24	52. 35. 34	54. 7. 33	55. 39. 20			
	22	- - -	- - -	- - -	- - -	26. 0. 30	27. 24. 33	28. 49. 6	30. 14. 7
	23	31. 39. 31	33. 5. 17	34. 31. 20	35. 57. 37	37. 24. 10	38. 50. 47	40. 17. 31	41. 44. 22
Aldebaran.	24	43. 11. 19	44. 38. 20	46. 5. 22	47. 32. 29	48. 59. 38	50. 26. 48	51. 53. 58	53. 21. 9
	25	54. 48. 21	56. 15. 32	57. 42. 43	59. 9. 55	60. 37. 6	62. 4. 17	63. 31. 28	64. 58. 39
	26	66. 25. 49							
The Sun.	31	34. 59. 8	36. 22. 0	37. 44. 59	39. 8. 4	40. 31. 15	41. 54. 33	43. 18. 0	44. 41. 35
	S. 1	46. 5. 20							

CONFIGURATIONS of the SATELLITES of JUPITER at VIII o'Clock in the *Evening*.



Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
W.	1	Giles.
Th.	2	London burnt 1666 O.S.
F.	3	
Sa.	4	
Sun.	5	*12th Sunday after Trinity.*
M.	6	
Tu.	7	Enurchus.
W.	8	Nativity of B. V. Mary.
Th.	9	
F.	10	
Sa.	11	
Sun.	12	*13th Sunday after Trinity.*
M.	13	
Tu.	14	Holy Croſs.
W.	15	
Th.	16	
F.	17	Lambert.
Sa.	18	
Sun.	19	*14th Sunday after Trinity.*
M.	20	
Tu.	21	*St. Matthew.*
W.	22	*K. Geo. III crowned.*
Th.	23	
F.	24	
Sa.	25	
Sun.	26	*15th Su. af. T.* St. Cyprian.
M.	27	
Tu.	28	
W.	29	*St. Mich. Prs. Royal b.*
Th.	30	St. Jerome.

Phaſes of the MOON.

	D. H. M.
☽ *Firſt Quarter* - - - -	4. 18. 41
○ Full Moon - - - - -	11. 10. 46
☾ *Laſt Quarter* - - - -	18. 7. 36
● New Moon - - - - -	26. 11. 56

Other *Phenomena.*

D. H. M.

3. 21. 5 ☽ ♏

4. 9. 41 ☽ ♐

4. 12. 48 ☽ ♐

5. 7. 20 ☽ 43 Ophiuchi.

6. 5. 56 ☽ ♂ ♄

6. 15. 35 ☽ ♃ ♄

6. 23. 33 ☽ ♐ ♄

7. - - ♃ ☌ ☊, ✱ 41′ North.

9. 12. 56 I.

9. 13. 47⅔ E. ♈ ♍, ✱ 11′¾ N. of ☽ 's C 5′½

9. 14. 58 ☽ ♂ ♍

9. 23. 13 ☽ ♑

10. 19. 35 ☽ ♑

11. - - ♄ ☍ ☊, ✱ 22′ South.

11. 4. 23 ☽ ♃ ♑

11. - - ☽ eclipſed, viſible.

12. 23. 22 ☽ ♂ ♐

16. 4. 32 ☽ ♊ Pleiadum.

17. 21. 38 ☽ ♉ ♉

20. 9. 43 ☽ ♋ ♊

21. 13. 32 ☽ ♈ ♋

23. 7. 8 ☉ enters ♎

23. 10. 50 ☽ ♌ ☊

26. - - ☿ ☍ ♃, ✱ 25′½ N.

29. - - ♂ ♊ ♊, ✱ 55′ South.

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Ascen. *in Time.*	Declin. *North.*	Equation of Time. *Sub.*	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
W.	1	5. 8. 16. 34	10. 39. 41, 7	8. 28. 33	0. 1, 6	18, 6
Th.	2	5. 9. 14. 43	10. 43. 19, 6	8. 6. 44	0. 20, 2	18, 9
F.	3	5. 10. 12. 54	10. 46. 57, 2	7. 44. 47	0. 39, 1	19, 2
Sa.	4	5. 11. 11. 6	10. 50. 34, 5	7. 22. 43	0. 58, 3	19, 4
Sun.	5	5. 12. 9. 20	10. 54. 11, 6	7. 0. 33	1. 17, 7	19, 7
M.	6	5. 13. 7. 35	10. 57. 48, 4	6. 38. 15	1. 37, 4	20, 0
Tu.	7	5. 14. 5. 51	11. 1. 25, 0	6. 15. 50	1. 57, 4	20, 2
W.	8	5. 15. 4. 9	11. 5. 1, 3	5. 53. 20	2. 17, 6	20, 3
Th.	9	5. 16. 2. 29	11. 8. 37, 4	5. 30. 44	2. 37, 9	20, 6
F.	10	5. 17. 0. 50	11. 12. 13, 4	5. 8. 2	2. 58, 5	20, 6
Sa.	11	5. 17. 59. 13	11. 15. 49, 2	4. 45. 15	3. 19, 1	20, 8
Sun.	12	5. 18. 57. 38	11. 19. 24, 9	4. 22. 23	3. 39, 9	21, 0
M.	13	5. 19. 56. 4	11. 23. 0, 5	3. 59. 27	4. 0, 9	21, 0
Tu.	14	5. 20. 54. 33	11. 26. 36, 0	3. 36. 26	4. 21, 9	21, 0
W.	15	5. 21. 53. 3	11. 30. 11, 4	3. 13. 22	4. 42, 9	21, 1
Th.	16	5. 22. 51. 36	11. 33. 46, 8	2. 50. 13	5. 4, 0	21, 1
F.	17	5. 23. 50. 11	11. 37. 22, 3	2. 27. 1	5. 25, 1	21, 0
Sa.	18	5. 24. 48. 48	11. 40. 57, 7	2. 3. 47	5. 46, 1	21, 1
Sun.	19	5. 25. 47. 28	11. 44. 33, 2	1. 40. 29	6. 7, 2	21, 0
M.	20	5. 26. 46. 10	11. 48. 8, 7	1. 17. 9	6. 28, 2	20, 8
Tu.	21	5 27. 44. 54	11. 51. 44, 3	0. 53. 47	6. 49, 0	20, 8
W.	22	5. 28. 43. 41	11. 55. 20, 0	0. 30. 23	7. 9, 8	20, 7
Th.	23	5. 29. 42. 30	11. 58. 55, 8	0. 6. 58 *South.*	7. 30, 5	20, 6
F.	24	6. 0. 41. 21	12. 2. 31, 7	0. 16. 28	7. 51, 1	20, 4
Sa.	25	6. 1. 40. 14	12. 6. 7, 8	0. 39. 55	8. 11, 5	20, 2
Sun.	26	6. 2. 39. 10	12. 9. 44, 1	1. 3. 22	8. 31, 7	20, 1
M.	27	6. 3. 38. 7	12. 13. 20, 5	1. 26. 49	8. 51, 8	19, 9
Tu.	28	6. 4. 37. 7	12. 16. 57, 1	1. 50. 15	9. 11, 7	19, 6
W.	29	6. 5. 36. 9	12. 20. 34, 0	2. 13. 41	9. 31, 3	19, 5
Th.	30	6. 6. 35. 12	12. 24. 11, 1	2. 37. 5	9. 50, 8	

Days	Time of ⊙'s Semidiam. passg Merid.	THE SUN's Semi-diameter	Hourly Motion.	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 4, 3	15. 54, 5	2. 25, 3	0. 003698	11. 11. 41
7	1. 4, 1	15. 56, 1	2. 25, 6	0. 003021	11. 11. 22
13	1. 4, 0	15. 57, 6	2. 26, 1	0. 002323	11. 11. 3
19	1. 4, 0	15. 59, 2	2. 26, 6	0. 001622	11. 10. 44
25	1. 4, 1	16. 0, 8	2. 27, 2	0. 000902	11. 10. 25

ECLIPSES of the SATELLITES of JUPITER

will not be *visible* this Month,

JUPITER being *too near* the SUN.

THE PLANETS

Days	Heliocentric Long.	Heliocentric Lat.	Geocentric Long.	Geocentric Lat.	Declin.	Passage Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
	☿	*MERCURY.*			Sup. ☌ 1d. 8h.	
1	5. 7. 0	6.32 N	5. 7.58	1.43 N	10.11 N	☌
4	5.20.20	5.47	5.13.40	1.35	7.53	0.12
7	6. 2.23	4.51	5.19.13	1.23	5.33	0.21
10	6.13.26	3.47	5.24.35	1. 7	3.11	0.30
13	6.23.40	2.40	5.29.47	0.49	0.50 N	0.38
16	7. 3.14	1.33	6. 4.50	0.30	1.28 S	0.45
19	7.12.19	0.27 N	6. 9.44	0. 9 N	3.43	0.51
22	7.21. 2	0.37 S	6.14.28	0.13 S	5.54	0.58
25	7.29.29	1.38	6.19. 4	0.35	8. 1	1. 3
28	8. 7.46	2.36	6.23.32	0.57	10. 2	1. 9
30	8.13.16	3.13	6.26.26	1.11	11.19	1.12
	♀	*VENUS.*				
1	8.26.11	0.40 S	6.19.39	0.28 S	8. 8 S	2.32
7	9. 5.41	1.12	6.26.33	0.52	11. 4	2.36
13	9.15.10	1.43	7. 3.22	1.18	13.52	2.40
19	9.24.39	2.10	7.10. 7	1.44	16.31	2.44
25	10. 4. 7	2.34	7.16.47	2. 9	18.56	2.49
	♂	*MARS.*			□ 18d. 11h¾.	
1	1. 1.55	0.31 S	2.15.49	0.38 S	22. 5 N	18.18
7	1. 5.24	0.25	2.19.12	0.31	22.31	18.11
13	1. 8.50	0.18	2.22.27	0.24	22.51	18. 3
19	1.12.15	0.12	2.25.33	0.16	23. 8	17.55
25	1.15.37	0. 5	2.28.29	0. 7	23.21	17.46
	♃	*JUPITER.*			☌ 9d. 7h½.	
1	5.15.43	1.13 N	5.14.33	1. 1 N	7. 2 N	0.25
7	5.16.10	1.13	5.15.51	1. 1	6.32	0. 8
13	5.16.37	1.13	5.17. 9	1. 2	6. 2	23.49
19	5.17. 5	1.13	5.18.26	1. 2	5.32	23.32
25	5.17.32	1.14	5.19.44	1. 2	5. 2	23.15
	♄	*SATURN.*			☌ 3d. 15h½.	
1	5.10.45	1.53 N	5.10.31	1.42 N	9.13 N	0.11
7	5.10.58	1.53	5.11.16	1.42	8.56	23.49
13	5.11.10	1.54	5.12. 1	1.43	8.39	23.30
19	5.11.23	1.54	5.12.46	1.43	8.22	23.12
25	5.11.35	1.55	5.13.30	1.44	8. 6	22.53
	♅	*GEORGIAN.*			☌ 30d. 22h¾.	
1	6. 7. 8	0.42 N	6. 5.40	0.40 N	1.38 S	1.42
11	6. 7.16	0.42	6. 6.16	0.40	1.53	1. 8
21	6. 7.23	0.42	6. 6.53	0.40	2. 8	0.35

Days of the Week.	Days of the Month.	THE MOON's Longitude. Noon.	Longitude. Midnight.	Latitude. Noon.	Latitude. Midnight.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
W.	1	6. 24. 15. 22	7. 0. 20. 55	3. 35. 46 S	3. 59. 18 S
Th.	2	7. 6. 29. 39	7. 12. 42. 0	4. 20. 20	4. 38. 32
F.	3	7. 18. 58. 24	7. 25. 19. 17	4. 53. 36	5. 5. 18
Sa.	4	8. 1. 45. 4	8. 8. 16. 9	5. 13. 20	5. 17. 29
Sun.	5	8. 14. 52. 53	8. 21. 35. 37	5. 17. 31	5. 13. 16
M.	6	8. 28. 24. 32	9. 5. 19. 47	5. 4. 34	4. 51. 21
Tu.	7	9. 12. 21. 23	9. 19. 29. 14	4. 33. 35	4. 11. 22
W.	8	9. 26. 43. 3	10. 4. 2. 26	3. 44. 52	3. 14. 22
Th.	9	10. 11. 26. 48	10. 18. 55. 23	2. 40. 17	2. 3. 8
F.	10	10. 26. 27. 17	11. 4. 1. 30	1. 23. 34	0. 42. 19 S
Sa.	11	11. 11. 36. 54	11. 19. 12. 18	0. 0. 14 S	0. 41. 52 N
Sun.	12	11. 26. 46. 30	0. 4. 18. 22	1. 23. 6 N	2. 2. 40
M.	13	0. 11. 46. 48	0. 19. 10. 48	2. 39. 47	3. 13. 50
Tu.	14	0. 26. 29. 32	1. 3. 42. 22	3. 44. 15	4. 10. 41
W.	15	1. 10. 48. 46	1. 17. 48. 27	4. 32. 49	4. 50. 31
Th.	16	1. 24. 41. 13	2. 1. 27. 7	5. 3. 41	5. 12. 23
F.	17	2. 8. 6. 17	2. 14. 39. 1	5. 16. 43	5. 16. 50
Sa.	18	2. 21. 5. 37	2. 27. 26. 33	5. 12. 57	5. 5. 17
Sun.	19	3. 3. 42. 18	3. 9. 53. 23	4. 54. 2	4. 39. 31
M.	20	3. 16. 0. 23	3. 22. 3. 49	4. 21. 57	4. 1. 37
Tu.	21	3. 28. 4. 16	4. 4. 2. 15	3. 38. 47	3. 13. 44
W.	22	4. 9. 58. 20	4. 15. 53. 0	2. 46. 42	2. 18. 0
Th.	23	4. 21. 46. 45	4. 27. 40. 0	1. 47. 55	1. 16. 44
F.	24	5. 3. 33. 12	5. 9. 26. 43	0. 44. 45 N	0. 12. 17 N
Sa.	25	5. 15. 20. 56	5. 21. 16. 6	0. 20. 21 S	0. 52. 51 S
Sun.	26	5. 27. 12. 35	6. 3. 10. 35	1. 24. 51	1. 56. 2
M.	27	6. 9. 10. 22	6. 15. 12. 8	2. 26. 3	2. 54. 34
Tu.	28	6. 21. 16. 6	6. 27. 22. 26	3. 21. 17	3. 45. 51
W.	29	7. 3. 31. 21	7. 9. 43. 1	4. 7. 57	4. 27. 19
Th.	30	7. 15. 57. 37	7. 22. 15. 24	4. 43. 38	4. 56. 40

Days of the Week.	Days of the Month.	Age.	THE MOON's Passage Merid.	Right Ascension. Noon.	Right Ascension. Midnight.	Declination. Noon.	Declination. Midnight.
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
W.	1	6	2. 50	201. 6	206. 47	12. 45 S	15. 20 S
Th.	2	7	3. 34	212. 40	218. 45	17. 47	20. 5
F.	3	8	4. 22	225. 4	231. 38	22. 11	24. 3
Sa.	4	9	5. 15	238. 28	245. 34	25. 39	26. 56
Sun.	5	10	6. 12	252. 55	260. 28	27. 52	28. 25
M.	6	11	7. 13	268. 12	276. 2	28. 32	28. 13
Tu.	7	12	8. 14	283. 54	291. 46	27. 26	26. 12
W.	8	13	9. 15	299. 33	307. 12	24. 31	22. 25
Th.	9	14	10. 13	314. 42	322. 1	19. 56	17. 7
F.	10	15	11. 9	329. 11	336. 11	14. 1	10. 42
Sa.	11	16	12. 1	343. 3	349. 48	7. 13	3. 38 S
Sun.	12	17	12. 53	356. 29	3. 8	0. 1 S	3. 35 N
M.	13	18	13. 45	9. 47	16. 27	7. 7 N	10. 30
Tu.	14	19	14. 37	23. 11	29. 59	13. 43	16. 42
W.	15	20	15. 32	36. 53	43. 53	19. 24	21. 48
Th.	16	21	16. 27	50. 59	58. 9	23. 52	25. 34
F.	17	22	17. 24	65. 24	72. 40	26. 54	27. 50
Sa.	18	23	18. 20	79. 55	87. 6	28. 22	28. 32
Sun.	19	24	19. 13	94. 12	101. 9	28. 19	27. 45
M.	20	25	20. 4	107. 57	114. 33	26. 50	25. 38
Tu.	21	26	20. 52	120. 58	127. 11	24. 8	22. 24
W.	22	27	21. 36	133. 13	139. 4	20. 27	18. 17
Th.	23	28	22. 18	144. 46	150. 19	15. 58	13. 30
F.	24	29	22. 58	155. 45	161. 6	10. 55	8. 14
Sa.	25	30	23. 37	166. 23	171. 38	5. 28 N	2. 39 N
Sun.	26	1	♂	176. 53	182. 9	0. 11 S	3. 2 S
M.	27	2	0. 17	187. 28	192. 52	5. 53	8. 41
Tu.	28	3	0. 59	298. 22	204. 1	11. 25	14. 4
W.	29	4	1. 42	209. 49	215. 49	16. 35	18. 58
Th.	30	5	2. 29	222. 1	228. 28	21. 9	23. 8

Days of the Week.	Days of the Month.	THE MOON's Semidiameter.		Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*	*Noon.*	*Midn.*
		M. S.	M. S.	M. S.	M. S.		
W.	1	14. 58	15. 2	54. 57	55. 12	5153	5133
Th.	2	15. 7	15. 11	55. 27	55. 44	5114	5091
F.	3	15. 16	15. 22	56. 3	56. 24	5067	5040
Sa.	4	15. 28	15. 35	56. 47	57. 11	5010	4980
Sun.	5	15. 42	15. 49	57. 36	58. 2	4949	4916
M.	6	15. 56	16. 4	58. 29	58. 56	4882	4849
Tu.	7	16. 11	16. 18	59. 23	59. 49	4816	4784
W.	8	16. 25	16. 31	60. 13	60. 35	4755	4729
Th.	9	16. 36	16. 40	60. 54	61. 9	4707	4689
F.	10	16. 43	16. 45	61. 20	61. 28	4676	4666
Sa.	11	16. 45	16. 45	61. 30	61. 27	4664	4668
Sun.	12	16. 43	16. 39	61. 19	61. 7	4677	4691
M.	13	16. 35	16. 29	60. 50	60. 30	4711	4735
Tu.	14	16. 23	16. 16	60. 7	59. 41	4763	4794
W.	15	16. 8	16. 1	59. 14	58. 45	4827	4863
Th.	16	15. 53	15. 45	58. 16	57. 47	4898	4934
F.	17	15. 37	15. 30	57. 19	56. 52	4970	5004
Sa.	18	15. 23	15. 17	56. 27	56. 4	5036	5065
Sun.	19	15. 11	15. 6	55. 43	55. 23	5093	5119
M.	20	15. 1	14. 57	55. 6	54. 51	5141	5161
Tu.	21	14. 54	14. 51	54. 39	54. 29	5177	5190
W.	22	14. 49	14. 47	54. 21	54. 15	5201	5209
Th.	23	14. 46	14. 45	54. 11	54. 9	5214	5217
F.	24	14. 45	14. 45	54. 9	54. 9	5217	5217
Sa.	25	14. 46	14. 47	54. 12	54. 16	5213	5207
Sun.	26	14. 49	14. 50	54. 21	54. 27	5201	5193
M.	27	14. 52	14. 55	54. 34	54. 43	5183	5171
Tu.	28	14. 57	15. 0	54. 53	55. 4	5158	5144
W.	29	15. 4	15. 7	55. 16	55. 29	5128	5111
Th.	30	15. 11	15. 15	55. 43	55. 59	5093	5072

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Antares.	1	42. 39. 2	41. 7. 54	39. 36. 37	38. 5. 10	36. 33. 34	35. 1. 47	33. 29. 49	31. 57. 40
	2	30. 25. 19							
	2	85. 36. 32	84. 18. 52	83. 1. 5	81. 43. 12	80. 25. 14	79. 7. 12	77. 49. 8	76. 31. 1
α Aquilæ.	3	75. 12. 53	73. 54. 44	72. 36. 37	71. 18. 32	70. 0. 30	68. 42. 34	67. 24. 43	66. 7. 1
	4	64. 49. 27							
	4	87. 30. 12	85. 59. 14	84. 27. 58	82. 56. 26	81. 24. 36	79. 52. 30	78. 20. 7	76. 47. 29
	5	75. 14. 35	73. 41. 24	72. 7. 59	70. 34. 21	69. 0. 28	67. 26. 22	65. 52. 5	64. 17. 38
Fomalhaut.	6	62. 43. 1	61. 8. 12	59. 33. 19	57. 58. 21	56. 23. 19	54. 48. 12	53. 13. 11	51. 38. 14
	7	50. 3. 23	48. 28. 44	46. 54. 20	45. 20. 13	43. 46. 26			
	7	- - -	- - -	- - -	- - -	105. 53. 31	104. 6. 17	102. 18. 38	100. 30. 36
	8	98. 42. 10	96. 53. 21	95. 4. 11	93. 14. 39	91. 24. 45	89. 34. 30	87. 43. 56	85. 53. 3
α Arietis.	9	84. 1. 52	82. 10. 23	80. 18. 39	78. 26. 40	76. 34. 26	74. 41. 58	72. 49. 19	70. 56. 29
	10	69. 3. 28	67. 10. 18	65. 17. 2	63. 23. 40	61. 30. 12	59. 36. 42	57. 43. 9	55. 49. 36
	11	53. 56. 4							
	11	85. 26. 24	83. 34. 2	81. 41. 43	79. 49. 27	77. 57. 17	76. 5. 13	74. 13. 19	72. 21. 34
	12	70. 29. 59	68. 38. 37	66. 47. 30	64. 56. 39	63. 6. 4	61. 15. 48	59. 25. 54	57. 36. 22
Aldebaran.	13	55. 47. 12	53. 58. 27	52. 10. 11	50. 22. 25	48. 35. 7	46. 48. 20	45. 2. 11	43. 16. 39
	14	41. 31. 45	39. 47. 29	38. 4. 2	36. 21. 24	34. 39. 35	32. 58. 45	31. 18. 55	29. 40. 8
	15	28. 2. 29							

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Pollux.	15	69. 20. 8	67. 34. 55	65. 50. 9	64. 5. 50	62. 21. 59	60. 38. 35	58. 55. 38	57. 13. 9
	16	55. 31. 6	53. 49. 30	52. 8. 21	50. 27. 38	48. 47. 22	47. 7. 33	45. 28. 9	43. 49. 11
	17	42. 10. 39	40. 32. 31	38. 54. 48	37. 17. 29	35. 40. 34	34. 4. 4	32. 27. 57	30. 52. 14
	18	29. 16. 54	27. 41. 57	26. 7. 23	24. 33. 12	22. 59. 23			
The Sun.	15	- - -	- - -	- - -	- - -	- - -	- - -	121. 13. 26	119. 38. 6
	16	118. 3. 13	116. 28. 47	114. 54. 47	113. 21. 13	111. 48. 5	110. 15. 23	108. 43. 7	107. 11. 15
	17	105. 39. 48	104. 8. 46	102. 38. 7	101. 7. 52	99. 38. 0	98. 8. 31	96. 39. 24	95. 10. 39
	18	93. 42. 15	92. 14. 13	90. 46. 30	89. 19. 8	87. 52. 5	86. 25. 21	84. 58. 55	83. 32. 46
	19	82. 6. 55	80. 41. 21	79. 16. 2	77. 50. 59	76. 26. 11	75. 1. 37	73. 37. 17	72. 13. 10
	20	70. 49. 16	69. 25. 35	68. 2. 5	66. 38. 46	65. 15. 38	63. 52. 40	62. 29. 52	61. 7. 13
	21	59. 44. 43	58. 22. 21	57. 0. 7	55. 37. 59	54. 15. 59	52. 54. 5	51. 32. 16	50. 10. 32
	22	48. 48. 54	47. 27. 20	46. 5. 51	44. 44. 24	43. 23. 2	42. 1. 42	40. 40. 25	39. 19. 10
	23	37. 57. 56							
Antares.	28	45. 38. 23	44. 6. 59	42. 35. 27	41. 3. 47	39. 31. 59	38. 0. 3	36. 27. 58	34. 55. 44
	29	33. 23. 22	31. 50. 51	30. 18. 10	28. 45. 20	27. 12. 20			
α Aquilæ.	29	- - -	- - -	- - -	- - -	82. 53. 10	81. 35. 8	80. 17. 3	78. 58. 57
	30	77. 40. 51	76. 22. 45	75. 4. 43	73. 46. 45	72. 28. 51	71. 11. 4	69. 53. 24	68. 35. 53
	O.1	67. 18. 33							

DISTANCES of MOON's *Center* from SUN, and from STARS *WEST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
The Sun.	1	46. 5.20	47.29.13	48.53.16	50.17.29	51.41.52	53. 6.26	54.31.11	55.56. 8
	2	57.21.16	58.46.36	60.12.10	61.37.56	63. 3.56	64.30.10	65.56.39	67.23.23
	3	68.50.22	70.17.37	71.45. 8	73.12.56	74.41. 1	76. 9.23	77.38. 4	79. 7. 3
	4	80.36.20	82. 5.57	83.35.54	85. 6.11	86.36.48	88. 7.46	89.39. 6	91.10.48
	5	92.42.51	94.15.17	95.48. 7	97.21.19	98.54.55	100.28.54	102. 3.17	103.38. 5
	6	105.13.16	106.48.52	108.24.53	110. 1.19	111.38. 9	113.15.25	114.53. 5	116.31.11
	7	118. 9.41	119.48.36	121.27.56					
Spica ♍	4	- - -	- - -	- - -	- - -	47.11.11	48.49.20	50.27.52	52. 6.46
	5	53.46. 2	55.25.41	57. 5.43	58.46. 8	60.26.57	62. 8. 9	63.49.45	65.31.46
	6	67.14.10	68.56.59	70.40.13	72.23.51	74. 7.55			
Antares.	6	- - -	- - -	- - -	- - -	28.13.31	29.57.59	31.42.52	33.28.12
	7	35.13.56	37. 0. 6	38.46.40	40.33.39	42.21. 2	44. 8.50	45.57. 1	47.45.35
	8	49.34.33	51.23.54	53.13.37	55. 3.41	56.54. 7	58.44.54	60.36. 0	62.27.24
	9	64.19 8	66.11.10	68. 3.28	69.56. 1	71.48.50	73.41.53	75.35. 8	77.28.35
	10	79.22.13	81.16. 2	83. 9.58	85. 4. 1	86.58.12	88.52,28	90.46.46	92.41. 6
	11	94.35.29	96.29.51	98.24.12	100.18.31	102.12.46			
α Aquilæ.	11	- - -	- - -	- - -	- - -	55.40.28	57. 7.13	58.34.51	60. 3.18
	12	61.32.29	63. 2.21	64.32.43	66. 3.35	67.34.57	69. 6.36	70.38.29	72.10.34

Stars Names.	Days	*Noon.*	III^{h}.	VI^{h}.	IX^{h}.	*Midnight.*	XV^{h}.	XVIII^{h}.	XXI^{h}.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
α Aquilæ.	13	73. 42. 52	75. 15. 13	76. 47. 33	78. 19. 53	79. 52. 13	81. 24. 25	82. 56. 27	84. 28. 18
	14	85. 59. 53							
α Pegasi.	14	38. 14. 1	39. 48. 4	41. 22. 41	42. 57. 46	44. 33. 15	46. 9. 6	47. 45. 9	49. 21. 22
	15	50. 57. 47	52. 34. 9	54. 10. 28	55. 46. 44	57. 22. 58	58. 59. 3	60. 34. 58	62. 10. 40
	16	63. 46. 7							
α Arietis.	16	20. 12. 15	21. 50. 8	23. 28. 0	25. 5. 49	26. 43. 33	28. 21. 12	29. 58. 39	31. 35. 56
	17	33. 13. 2	34. 49. 49	36. 26. 19	38. 2. 34	39. 38. 32	41. 14. 11	42. 49. 32	44. 24. 36
	18	45. 59. 22	47. 33. 50	49. 8. 1	50. 41. 55	52. 15. 32	53. 48. 53	55. 21. 57	56. 54. 45
	19	58. 27. 17							
Aldebaran.	19	28. 35. 4	30. 1. 2	31. 27. 17	32. 53. 46	34. 20. 29	35. 47. 24	37. 14. 25	38. 41. 34
	20	40. 8. 49	41. 36. 4	43. 3. 21	44. 30. 39	45. 57. 58	47. 25. 16	48. 52. 33	50. 19. 49
	21	51. 47. 5	53. 14. 18	54. 41. 30	56. 8. 40	57. 35. 48	59. 2. 55	60. 30. 1	61. 57. 5
	22	63. 24. 7							
Pollux.	22	19. 47. 11	21. 15. 25	22. 43. 41	24. 11. 57	25. 40. 14	27. 8. 32	28. 36. 51	30. 5. 10
	23	31. 33. 30	33. 1. 49	34. 30. 10	35. 58. 31	37. 26. 53	38. 55. 17	40. 23. 42	41. 52. 9
	24	43. 20. 38	44. 49. 9	46. 17. 42	47. 46. 18	49. 14. 57	50. 43. 39	52. 12. 24	53. 41. 13
	25	55. 10. 5							
The Sun.	30	39. 36. 38	41. 3. 1	42. 29. 36	43. 56. 22	45. 23. 20	46. 50. 30	48. 17. 53	49. 45. 28
	O. 1	51. 13. 15							

The SATELLITES of JUPITER

are *not visible* this Month,

JUPITER being *too near* the SUN.

Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
F.	1	Remigius.
Sa.	2	
Sun.	3	16*th Sunday after Trinity.*
M.	4	
Tu.	5	
W.	6	Faith.
Th.	7	
F.	8	
Sa.	9	St. Denys.
Sun.	10	17*th Sun. aft. Tr.* Oxf. and
M.	11	[Camb. Term beg.
Tu.	12	
W.	13	Transl. of K. Edw. Conf.
Th.	14	
F.	15	
Sa.	16	
Sun.	17	18*th Su. aft. Tr.* Etheldred,
M.	18	*St. Luke.*
Tu.	19	
W.	20	
Th.	21	
F.	22	
Sa.	23	
Sun.	24	19*th Sunday after Trinity.*
M.	25	*K. Geo. III. Acces.* Crispin.
Tu.	26	*K. Geo. III. proclaim.* 1760.
W.	27	
Th.	28	*St. Simon and St. Jude.*
F.	29	
Sa.	30	
Sun.	31	20*th Sunday after Trinity.*

Phases of the MOON.

	D.	H.	M.
☽ *First Quarter*	4.	4.	36
○ Full Moon	10.	19.	58
☾ *Last Quarter*	17.	23.	56
● New Moon	26.	4.	34

Other *Phenomena.*

D.	H.	M.	
1.	2.	58	☽ π ♏
1.	15.	42	☽ α ♏
1.	18.	50	☽ τ ♏
2.	13.	43	☽ 43 Ophiuchi.
3.	22.	48	☽ φ ♐
4.	-	-	☌ μ ♊, ✱ 58′ S.
4.	6.	59	☽ τ ♐
6.	21.	45	☽ γ ♍
7.	-	-	☿ ☌ ♏, ✱ 59′¾ N.
7.	0.	39	☽ δ ♍
7.	9.	23½	I. ☍ ♒, ✱ 9′½ N. of ☽'s C.
7.	10.	28½	E. 2′
8.	6.	5	☽ λ ♒
10.	10.	34	I. ☌ ♓, ✱ 16′ N. of ☽'s C.
10.	11.	6¾	E. 12′¼
11.	-	-	☿ ☍ ♏, ✱ 46′ S.
13.	14.	19	☽ η Pleiadum.
15.	6.	20	☽ β ♉
16.	-	-	♄ σ ♌, ✱ 4′½ S.
17.	-	-	♃ β ♍, ✱ 23′ S.
17.	17.	8	☽ χ ♊
18.	20.	37	☽ γ ♋
20.	17.	46	☽ α ♌
21.	7.	7	☽ ρ ♌
22.	13.	53	☽ τ ♌
23.	15.	8	☉ enters ♏
28.	21.	21	☽ α ♏
29.	-	-	☿ Stationary.
29.	0.	29	☽ τ ♏
29.	19.	13	☽ 43 Ophiuchi.
30.	2.	30	☽ ♀
31.	4.	20	☽ φ ♐
31.	12.	37	☽ τ ♐

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Ascen. in Time.	Declin. South.	Equation of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
F.	1	6. 7. 34. 17	12. 27. 48, 4	3. 0. 28	10. 10, 0	18, 9
Sa.	2	6. 8. 33. 24	12. 31. 26, 0	3. 23. 48	10. 28, 9	18, 6
Sun.	3	6. 9. 32. 33	12. 35. 3, 8	3. 47. 6	10, 47, 5	18, 4
M.	4	6. 10. 31. 43	12. 38. 42, 0	4. 10. 22	11. 5, 9	18, 0
Tu.	5	6. 11. 30. 55	12. 42. 20, 5	4. 33. 34	11. 23, 9	17, 7
W.	6	6. 12. 30. 9	12. 45. 59, 3	4. 56. 43	11. 41, 6	17, 3
Th.	7	6. 13. 29. 24	12. 49. 38, 5	5. 19. 48	11. 58, 9	16, 9
F.	8	6. 14. 28. 41	12. 53. 18, 1	5. 42. 49	12. 15, 8	16, 6
Sa.	9	6. 15. 28. 1	12. 56. 58, 0	6. 5. 46	12. 32, 4	16, 1
Sun.	10	6. 16. 27. 22	13. 0. 38, 4	6. 28. 37	12. 48, 5	15, 6
M.	11	6. 17. 26. 45	13. 4. 19, 3	6. 51. 24	13. 4, 1	15, 2
Tu.	12	6. 18. 26. 10	13. 8. 0, 7	7. 14. 5	13. 19, 3	14, 6
W.	13	6. 19. 25. 37	13. 11. 42, 5	7. 36. 40	13. 33, 9	14, 2
Th.	14	6. 20. 25. 6	13. 15. 24, 9	7. 59. 8	13. 48, 1	13, 6
F.	15	6. 21. 24. 38	13. 19. 7, 8	8. 21. 31	14. 1, 7	13, 0
Sa.	16	6. 22. 24. 12	13. 22. 51, 3	8. 43. 46	14. 14, 7	12, 4
Sun.	17	6. 23. 23. 48	13. 26. 35, 4	9. 5. 54	14. 27, 1	11, 9
M.	18	6. 24. 23. 27	13. 30. 20, 1	9. 27. 54	14. 39, 0	11, 2
Tu.	19	6. 25. 23. 8	13. 34. 5, 4	9. 49. 46	14. 50, 2	10, 6
W.	20	6. 26. 22. 51	13. 37. 51, 4	10. 11. 29	15. 0, 8	9, 9
Th.	21	6. 27. 22. 37	13. 41. 38, 0	10. 33. 4	15. 10, 7	9, 2
F.	22	6. 28. 22. 25	13. 45. 25, 3	10. 54. 30	15. 19, 9	8, 5
Sa.	23	6. 29. 22. 15	13. 49. 13, 3	11. 15. 46	15. 28, 4	7, 9
Sun.	24	7. 0. 22. 8	13. 53. 2, 0	11. 36. 51	15. 36, 3	7, 1
M.	25	7. 1. 22. 2	13. 56. 51, 4	11. 57. 46	15. 43, 4	6, 4
Tu.	26	7. 2. 21. 59	14. 0. 41, 5	12. 18. 30	15. 49, 8	5, 7
W.	27	7. 3. 21. 58	14. 4. 32, 3	12. 39. 3	15. 55, 5	5, 0
Th.	28	7. 4. 21. 58	14. 8. 23, 9	12. 59. 24	16. 0, 5	4, 2
F.	29	7. 5. 22. 1	14. 12. 16, 3	13. 19. 33	16. 4, 7	3, 5
Sa.	30	7. 6. 22. 5	14. 16. 9, 4	13. 39. 29	16. 8, 2	2, 7
Sun.	31	7. 7. 22. 10	14. 20. 3, 2	13. 59. 12	16. 10, 9	

Days	Time of ☉'s Semidiam. passs Merid.	THE SUN's Semi-diameter	Hourly Motion.	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 4, 2	16. 2, 5	2. 27, 7	0. 000146	11. 10. 6
7	1. 4, 6	16. 4, 1	2. 28, 3	9. 999374	11. 9. 47
13	1. 5, 0	16. 5, 8	2. 28, 8	9. 998620	11. 9. 28
19	1. 5, 5	16. 7, 4	2. 29, 2	9. 997900	11. 9. 9
25	1. 6, 0	16. 9, 1	2. 29, 7	9. 997202	11. 8. 50

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite.

Immersions.

Days.	H. M S.
9	5. 28. 45
10	23. 57. 44
12	18. 26. 37
14	12. 55. 33
16	7. 24. 23
18	1. 53. 15
19	20. 22. 0
21	14. 50. 46
23	9. 19. 27
25	3. 48. 10
26	22. 16. 46
*28	16. 45. 24
30	11. 13. 57

II. Satellite.

Immersions.

Days.	H. M. S.
9	21. 7. 57
13	10. 25. 42
16	23. 43. 17
20	13. 0. 44
24	2. 17. 59
27	15. 35. 4
31	4. 51. 56

III. Satellite.

Days.	H. M. S.	
12	23. 29. 13	Im.
13	2. 32. 25	E.
20	3. 29. 0	Im.
20	6. 31. 22	E.
27	7. 28. 10	Im.
27	10. 29. 41	E.

IV. Satellite.

20	12. 4. 22	Im.
20	15. 51. 16	E.

Days	THE PLANETS					
	Heliocentric		Geocentric		Declin.	Passage Merid.
	Long.	Lat.	Long.	Lat.		
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
	☿ Gr. Elong. 17d.		*MERCURY.*			
1	8. 16. 0	3. 31 S	6. 27. 52	1. 19 S	11. 57 S	1. 14
4	8. 24. 16	4. 21	7. 2. 2	1. 40	13. 45	1. 18
7	9. 2. 40	5. 6	7. 6. 3	2. 0	15. 26	1. 23
10	9. 11. 16	5. 46	7. 9. 53	2. 18	16. 59	1. 26
13	9. 20. 13	6. 18	7. 13. 29	2. 35	18. 22	1. 29
16	9. 29. 35	6. 43	7. 16. 48	2. 48	19. 34	1. 31
19	10. 9. 31	6. 57	7. 19. 45	2. 58	20. 33	1. 32
22	10. 20. 10	6. 59	7. 22. 13	3. 3	21. 17	1. 30
25	11. 1. 40	6. 45	7. 24. 1	3. 1	21. 44	1. 26
28	11. 14. 11	6. 11	7. 24. 56	2. 50	21. 46	1. 19
31	11. 27. 55	5. 13	7. 24. 40	2. 27	21. 20	1. 6
	♀ Gr. Elong. 20d.		*VENUS.*			
1	10. 13. 36	2. 54 S	7. 23. 21	2. 34 S	21. 7 S	2. 53
7	10. 23. 6	3. 9	7. 29. 49	2. 57	23. 1	2. 58
13	11. 2. 35	3. 19	8. 6. 8	3. 18	24. 36	3. 3
19	11. 12. 6	3. 23	8. 12. 16	3. 36	25. 52	3. 7
25	11. 21. 37	3. 22	8. 18. 12	3. 50	26. 46	3. 10
	♂		*MARS.*			
1	1. 18. 58	0. 1 N	3. 1. 14	0. 2 N	23. 30 N	17. 35
7	1. 22. 16	0. 8	3. 3. 45	0. 12	23. 37	17. 25
13	1. 25. 32	0. 14	3. 6. 1	0. 23	23. 43	17. 13
19	1. 28. 47	0. 20	3. 8. 1	0. 35	23. 49	16. 59
25	2. 1. 59	0. 26	3. 9. 42	0. 48	23. 55	16. 44
	♃		*JUPITER.*			
1	5. 18. 0	1. 14 N	5. 21. 0	1. 3 N	4. 32 N	22. 58
7	5. 18. 27	1. 14	5. 22. 16	1. 3	4. 2	22. 41
13	5. 18. 55	1. 14	5. 23. 31	1. 4	3. 33	22. 23
19	5. 19. 22	1. 14	5. 24. 44	1. 5	3. 5	22. 5
25	5. 19. 49	1. 15	5. 25. 55	1. 5	2. 38	21. 47
	♄		*SATURN.*			
1	5. 11. 48	1. 55 N	5. 14. 14	1. 45 N	7. 49 N	22. 34
7	5. 12. 0	1. 55	5. 14. 56	1. 46	7. 34	22. 15
13	5. 12. 13	1. 56	5. 15. 37	1. 46	7. 19	21. 55
19	5. 12. 26	1. 56	5. 16. 17	1. 47	7. 4	21. 35
25	5. 12. 38	1. 56	5. 16. 55	1. 48	6. 50	21. 15
	♅		*GEORGIAN.*			
1	6. 7. 31	0. 42 N	6. 7. 31	0. 40 N	2. 23 S	0. 1
11	6. 7. 39	0. 42	6. 8. 9	0. 40	2. 38	23. 23
21	6. 7. 47	0. 42	6. 8. 47	0. 40	2. 52	22. 48

Days of the Week.	Days of the Month.	THE MOON'S Longitude. Noon.	Midnight.	Latitude. Noon.	Midnight.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
F.	1	7. 28. 36. 31	8. 5. 1. 13	5. 6. 12 S	5. 11. 59 S
Sa.	2	8. 11. 29. 44	8. 18. 2. 18	5. 13. 52	5. 11. 44
Sun.	3	8. 24. 39. 8	9. 1. 20. 24	5. 5. 26	4. 54. 58
M.	4	9. 8. 6. 18	9. 14. 57. 2	4. 40. 17	4. 21. 28
Tu.	5	9. 21. 52. 39	9. 28. 53. 11	3. 58. 37	3. 31. 58
W.	6	10. 5. 58. 34	10. 13. 8. 41	3. 1. 45	2. 28. 23
Th.	7	10. 20. 23. 16	10. 27. 41. 54	1. 52. 17	1. 14. 2 S
F.	8	11. 5. 4. 3	11. 12. 29. 5	0. 34. 16 S	0. 6. 19 N
Sa.	9	11. 19. 56. 14	11. 27. 24. 34	0. 46. 57 N	1. 26. 50
Sun.	10	0. 4. 53. 8	0. 12. 20. 49	2. 5. 13	2. 41. 19
M.	11	0. 19. 46. 36	0. 27. 9. 26	3. 14. 28	3. 44. 8
Tu.	12	1. 4. 28. 20	1. 11. 42. 26	4. 9. 47	4. 31. 7
W.	13	1. 18. 50. 59	1. 25. 53. 25	4. 47. 55	5. 0. 5
Th.	14	2. 2. 49. 19	2. 9. 38. 29	5. 7. 36	5. 10. 37
F.	15	2. 16. 20. 48	2. 22. 56. 25	5. 9. 18	5. 3. 52
Sa.	16	2. 29. 25. 31	3. 5. 48. 29	4. 54. 36	4. 41. 48
Sun.	17	3. 12. 5. 44	3. 18. 17. 48	4. 25. 45	4. 6. 47
M.	18	3. 24. 25. 17	4. 0. 28. 45	3. 45. 11	3. 21. 18
Tu.	19	4. 6. 28. 53	4. 12. 26. 19	2. 55. 24	2. 27. 47
W.	20	4. 18. 21. 44	4. 24. 15. 46	1. 58. 43	1. 28. 32
Th.	21	5. 0. 9. 3	5. 6. 2. 9	0. 57. 27 N	0. 25. 50 N
F.	22	5. 11. 55. 40	5. 17. 50. 9	0. 6. 5 S	0. 37. 59 S
Sa.	23	5. 23. 46. 2	5. 29. 43. 46	1. 9. 33	1. 40. 29
Sun.	24	6. 5. 43. 44	6. 11. 46. 13	2. 10. 26	2. 39. 5
M.	25	6. 17. 51. 30	6. 23. 59. 46	3. 6. 6	3. 31. 8
Tu.	26	7. 0. 11. 9	7. 6. 25. 44	3. 53. 52	4. 13. 58
W.	27	7. 12. 43. 35	7. 19. 4. 39	4. 31. 8	4. 45. 5
Th.	28	7. 25. 28. 57	8. 1. 56. 23	4. 55. 33	5. 2. 21
F.	29	8. 8. 26. 54	8. 15. 0. 28	5. 5. 17	5. 4. 14
Sa.	30	8. 21. 37. 3	8. 28. 16. 33	4. 59. 8	4. 49. 57
Sun.	31	9. 4. 58. 57	9. 11. 44. 14	4. 36. 43	4. 19. 33

Days of the Week.	Days of the Month.	Age.	THE MOON'S Passage Merid.	Right Ascension.		Declination.	
				Noon.	*Midnight.*	*Noon.*	*Midnight.*
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
F.	1	6	3.20	235. 8	242. 2	24.51 S	26.16 S
Sa.	2	7	4.15	249. 9	256.28	27.22	28. 6
Sun.	3	8	5.13	263.56	271.31	28.27	28.23
M.	4	9	6.13	279. 9	286.46	27.53	26.57
Tu.	5	10	7.12	294.20	301.49	25.37	23.52
W.	6	11	8. 9	309.10	316.22	21.44	19.16
Th.	7	12	9. 3	323.25	330.20	16.29	13.27
F.	8	13	9.56	337. 7	343.49	10.12	6.47 S
Sa.	9	14	10.47	350.27	357. 3	3.16 S	0.18 N
Sun.	10	15	11.38	3.39	10.18	3.52 N	7.22
M.	11	16	12.30	17. 0	23.49	10.45	13.57
Tu.	12	17	13.25	30.44	37.47	16.56	19.39
W.	13	18	14.21	44.58	52.16	22. 3	24. 6
Th.	14	19	15.19	59.40	67. 7	25.46	27. 2
F.	15	20	16.17	74.34	82. 0	27.53	28.20
Sa.	16	21	17.13	89.21	96.34	28.23	28. 2
Sun.	17	22	18. 6	103.36	110.26	27.19	26.17
M.	18	23	18.55	117. 4	123.28	24.57	23.21
Tu.	19	24	19.40	129.40	135.39	21.30	19.27
W.	20	25	20.23	141.27	147. 5	17.13	14.50
Th.	21	26	21. 3	152.35	157.59	12.20	9.42
F.	22	27	21.42	163.18	168.34	7. 0	4.14 N
Sa.	23	28	22.22	173.49	179. 5	1.25 N	1.26 S
Sun.	24	29	23. 3	184.24	189.47	4.16 S	7. 6
M.	25	30	23.46	195.16	200.53	9.53	12.35
Tu.	26	1	ó	206.40	212.38	15.11	17.40
W.	27	2	0.32	218.49	225.13	19.59	22. 5
Th.	28	3	1.22	231.51	238.43	23.56	25.30
F.	29	4	2.16	245.48	253. 5	26.45	27.40
Sa.	30	5	3.14	260.31	268. 3	28.11	28.17
Sun.	31	6	4.12	275.38	283.11	27.59	27.15

Days of the Week.	Days of the Month.	THE MOON'S Semidiameter.		Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*		
		M. S.	M. S.	M. S.	M. S.	*Noon.*	*Midn.*
F.	1	15.20	15.25	56.15	56.33	5051	5028
Sa.	2	15.30	15.35	56.52	57.11	5004	4980
Sun.	3	15.40	15.46	57.31	57.53	4955	4927
M.	4	15.52	15.58	58.15	58.37	4900	4872
Tu.	5	16. 4	16.10	58.59	59.20	4845	4820
W.	6	16.16	16.21	59.40	60. 0	4795	4771
Th.	7	16.26	16.30	60.18	60.33	4750	4732
F.	8	16.33	16.36	60.45	60.54	4717	4707
Sa.	9	16.37	16.37	60.59	61. 0	4700	4699
Sun.	10	16.37	16.34	60.57	60.49	4703	4712
M.	11	16.31	16.27	60.38	60.22	4725	4745
Tu.	12	16.22	16.16	60. 3	59.41	4768	4794
W.	13	16. 9	16. 2	59.17	58.51	4823	4855
Th.	14	15.55	15.47	58.23	57.56	4890	4923
F.	15	15.40	15.32	57.28	57. 1	4958	4992
Sa.	16	15.25	15.19	56.35	56.11	5026	5056
Sun.	17	15.13	15. 7	55.49	55.29	5085	5111
M.	18	15. 2	14.58	55.11	54.55	5134	5155
Tu.	19	14.54	14.52	54.42	54.32	5173	5186
W.	20	14.49	14.48	54.24	54.19	5197	5203
Th.	21	14.47	14.47	54.16	54.15	5207	5209
F.	22	14.47	14.48	54.16	54.20	5207	5202
Sa.	23	14.50	14.52	54.25	54.32	5195	5186
Sun.	24	14.54	14.56	54.40	54.49	5175	5163
M.	25	14.59	15. 2	54.59	55.11	5150	5134
Tu.	26	15. 6	15. 9	55.24	55.37	5118	5100
W.	27	15.13	15.17	55.50	56. 4	5084	5065
Th.	28	15.21	15.25	56.19	56.33	5046	5028
F.	29	15.29	15.33	56.48	57. 3	5009	4990
Sa.	30	15.37	15.41	57.18	57.33	4971	4952
Sun.	31	15.45	15.49	57.48	58. 3	4933	4915

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Fomalhaut.	1	90. 27. 58	88. 58. 18	87. 28. 27	85. 58. 24	84. 28. 9	82. 57. 43	81. 27. 7	79. 56. 20
	2	78. 25. 22	76. 54. 14	75. 22. 57	73. 51. 30	72. 19. 55	70. 48. 11	69. 16. 20	67. 44. 23
	3	66. 12. 19	64. 40. 9	63. 7. 56	61. 35. 40	60. 3. 21	58. 31. 0	56. 58. 41	55. 26. 26
	4	53. 54. 14	52. 22. 5	50. 50. 8	49. 18. 25	47. 46. 55	46. 15. 49	44. 45. 0	43. 14. 38
	5	41. 44. 49							
α Arietis.	5	103. 30. 25	101. 46. 21	100. 1. 57	98. 17. 12	96. 32. 7	94. 46. 42	93. 0. 58	91. 14. 54
	6	89. 28. 30	87. 41. 47	85. 54. 45	84. 7. 24	82. 19. 45	80. 31. 48	78. 43. 34	76. 55. 3
	7	75. 6. 16	73. 17. 12	71. 27. 55	69. 38. 22	67. 48. 36	65. 58. 36	64. 8. 25	62. 18. 3
	8	60. 27. 29	58. 36. 45	56. 45. 54	54. 54. 56	53. 3. 50	51. 12. 40	49. 21. 25	47. 30. 8
	9	45. 38. 48							
Aldebaran.	9	77. 14. 19	75. 23. 57	73. 33. 33	71. 43. 9	69. 52. 47	68. 2. 28	66. 12. 15	64. 22. 8
	10	62. 32. 8	60. 42. 17	58. 52. 39	57. 3. 14	55. 14. 2	53. 25. 5	51. 36. 29	49. 48. 13
	11	48. 0. 17	46. 12. 44	44. 25. 41	42. 39. 8	40. 53. 6	39. 7. 35	37. 22. 48	35. 38. 46
	12	33. 55. 29	32. 13. 7	30. 31. 44	28. 51. 23	27. 12. 8			
Pollux.	12	- - -	- - -	- - -	- - -	68. 27. 15	66. 39. 56	64. 53. 1	63. 6. 29
	13	61. 20. 21	59. 34. 37	57. 49. 18	56. 4. 24	54. 19. 55	52. 35. 52	50. 52. 15	49. 9. 4
	14	47. 26. 19	45. 44. 0	44. 2. 8	42. 20. 43	40. 39. 44			
Regulus.	14	- - -	- - -	- - -	- - -	77. 27. 28	75. 46. 40	74. 6. 18	72. 26. 21
	15	70. 46. 49	69. 7. 42	67. 28. 39	65. 50. 41	64. 12. 47	62. 35. 17	60. 58. 11	59. 21. 27

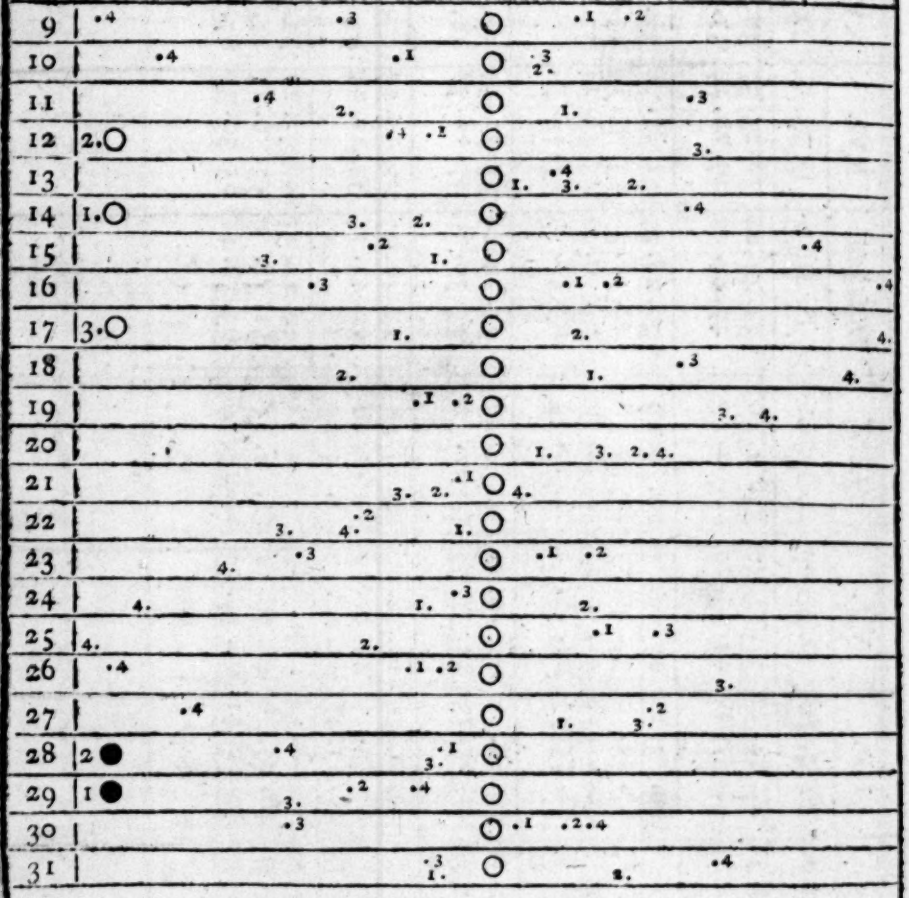
Stars Names.	Days	*Noon.*	III^{h}.	VI^{h}.	IX^{h}.	*Midnight.*	XV^{h}.	XVIII^{h}.	XXI^{h}.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Regulus.	16	57. 45. 6	56. 9. 7	54. 33. 30	52. 58. 14	51. 23. 19	49. 48. 45	48. 14. 31	46. 40. 36
	17	45. 7. 0	43. 33. 44	42. 0. 42	40. 27. 59	38. 55. 33	37. 23. 23	35. 51. 28	34. 19. 48
	18	32. 48. 24							
The Sun.	15	- - -	- - -	- - -	120. 20. 50	118. 50. 34	117. 20. 41	115. 51. 11	114. 22. 4
	16	112. 53. 20	111. 24. 58	109. 56. 57	108. 29. 17	107. 1. 58	105. 35. 0	104. 8. 21	102. 42. 1
	17	101. 16. 1	99. 50. 19	98. 24. 55	96. 59. 47	95. 34. 57	94. 10. 23	92. 46. 3	91. 21. 59
	18	89. 58. 10	88. 34. 35	87. 11. 13	85. 48. 4	84. 25. 7	83. 2. 22	81. 39. 47	80. 17. 22
	19	78. 55. 8	77. 33. 3	76. 11. 6	74. 49. 17	73. 27. 36	72. 6. 2	70. 44. 35	69. 23. 13
	20	68. 1. 57	66. 40. 46	65. 19. 38	63. 58. 34	62. 37. 34	61. 16. 36	59. 55. 39	58. 34. 45
	21	57. 13. 52	55. 53. 1	54. 32. 9	53. 11. 18	51. 50. 27	50. 29. 34	49. 8. 40	47. 47. 44
	22	46. 26. 46	45. 5. 45	43. 44. 42	42. 23. 35	41. 2. 26	39. 41. 13		
Fomalhaut.	28	93. 25. 46	91. 55. 29	90. 25. 0	88. 54. 22	87. 23. 33	85. 52. 35	84. 21. 28	82. 50. 13
	29	81. 18. 49	79. 47. 17	78. 15. 40	76. 43. 56	75. 12. 6	73. 40. 11	72. 8. 12	70. 36. 10
	30	69. 4. 5	67. 31. 58	65. 59. 51	64. 27. 45	62. 55. 40	61. 23. 36	59. 51. 39	58. 19. 47
	31	56. 48. 2	55. 16. 23	53. 44. 59	52. 13. 49	50. 42. 53	49. 12. 18	47. 42. 5	46. 12. 16
	N.1	44. 42. 54							

DISTANCES of MOON's *Center* from SUN, and from STARS *WEST* of her.

Stars Names.	Days	*Noon.*	IIIh.	VIh.	IXh.	*Midnight.*	XVh.	XVIIIh.	XXIh.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
The Sun.	1	51. 13. 15	52. 41. 15	54. 9. 28	55. 37. 54	57. 6. 34	58. 35. 28	60. 4. 37	61. 34. 1
	2	63. 3. 39	64. 33. 32	66. 3. 41	67. 34. 6	69. 4. 46	70. 35. 42	72. 6. 55	73. 38. 25
	3	75. 10. 12	76. 42. 16	78. 14. 37	79. 47. 15	81. 20. 12	82. 53. 27	84. 27. 1	86. 0. 53
	4	87. 35. 4	89. 9. 35	90. 44. 24	92. 19. 34	93. 55. 2	95. 30. 50	97. 6. 58	98. 43. 25
	5	100. 20. 12	101. 57. 19	103. 34. 47	105. 12. 33	106. 50. 40	108. 29. 6	110. 7. 52	111. 46. 56
	6	113. 26. 20	115. 6. 3	116. 46. 5	118. 26. 25	120. 7. 3			
Antares.	4	30. 59. 40	32. 41. 38	34. 23. 56	36. 6. 33	37. 49. 29	39. 32. 45	41. 16. 21	43. 0. 16
	5	44. 44. 32	46. 29. 8	48. 14. 4	49. 59. 21	51. 44. 57	53. 30. 54	55. 17. 10	57. 3. 46
	6	58. 50. 42	60. 37. 57	62. 25. 30	64. 13. 22	66. 1. 33	67. 50. 3	69. 38. 50	71. 27. 55
	7	73. 17. 17	75. 6. 56	76. 56. 50	78. 46. 59	80. 37. 23	82. 28. 2	84. 18. 53	86. 9. 57
	8	88. 1. 14	89. 52. 42	91. 44. 20	93. 36. 8	95. 28. 5	97. 20. 10	99. 12. 21	101. 4. 39
	9	102. 57. 2							
α Aquilæ.	9	56. 13. 17	57. 39. 13	59. 6. 7	60. 33. 54	62. 2. 29	63. 31. 51	65. 1. 48	66. 32. 21
	10	68. 3. 30	69. 35. 3	71. 6. 55	72. 39. 7	74. 11. 39	75. 44. 22	77. 17. 11	78. 50. 7
	11	80. 23. 9	81. 56. 10	83. 29. 9	85. 2. 2	86. 34. 46			
α Pegasi.	11	- - -	- - -	- - -	- - -	38. 49. 32	40. 25. 11	42. 1. 28	43. 38. 19
	12	45. 15. 38	46. 53. 24	48. 31. 25	50. 9. 41	51. 48. 12	53. 26. 44	55. 5. 17	56. 43. 50
	13	58. 22. 24	60. 0. 49	61. 39. 6	63. 17. 13	64. 55. 12	66. 32. 57	68. 10. 28	69. 47. 43
	14	71. 24. 40							

Stars Names.	Days	*Noon.*	IIIh.	VIh.	IXh.	*Midnight.*	XVh.	XVIIIh.	XXIh.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M. S.	D. M. S.	D. M. S.
	14	28. 4.32	29.44.52	31.24.57	33. 4.46	34.44.20	36.23.37	38. 2.36	39.41.17
α Arietis	15	41.19.39	42.57.40	44.35.20	46.12.40	47.49.40	49.26.19	51. 2.37	52.38.34
	16	54.14. 9							
	16	24.39. 8	26. 5.53	27.33. 7	29. 0.46	30.28.47	31.57. 8	33.25.39	34.54.22
	17	36.23.13	37.52. 2	39.20.51	40.49.40	42.18.30	43.47.14	45.15.55	46.44.31
Aldebaran.	18	48.13. 3	49.41.28	51. 9.48	52.38. 3	54. 6.12	55.34.15	57. 2.12	58.30. 4
	19	59.57.50	61.25.31	62.53. 7	64.20.39	65.48. 7	67.15.30	68.42.51	70.10. 9
	20	71.37.22							
	20	28. 9.40	29.38. 7	31. 6.32	32.34.57	34. 3.20	35.31.43	37. 0. 5	38.28.28
Pollux.	21	39.56.50	41.25.13	42.53.37	44.22. 2	45.50.29	47.18.58	48.47.30	50.16. 5
	22	51.44.44							
	22	14.50.53	16.19.39	17.48.30	19.17.26	20.46.27	22.15.33	23.44.46	25.14. 4
Regulus.	23	26.43.29	28.13. 1	29.42.40	31.12.26	32.42.19	34.12.20	35.42.30	37.12.47
	24	38.43.13	40.13.48	41.44.32	43.15.25	44.46.27			
	29	- - -	- - -	- - -	- - -	39.24.55	40.55.20	42.25.57	43.56.47
The Sun.	30	45.27.50	46.59. 6	48.30.34	50. 2.15	51.34. 9	53. 6.15	54.38.34	56.11. 6
	31	57.43.49	59.16.45	60.49.53	62.23.14	63.56.48	65.30.34	67. 4.31	68.38.41
	N.1	70.13. 3							

CONFIGURATIONS of the SATELLITES of JUPITER at Half an Hour past V. o'Clock in the *Morning*.



Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
M.	1	*All-Saints.*
Tu.	2	*Pr. Edward born.*
W.	3	On mor. of All Souls 1 r.
Th.	4	
F.	5	*Powder Plot* 1605.
Sa.	6	Leon. Mich. Term beg.
Sun.	7	*21st Sunday after Trinity.*
M.	8	*Prs. Aug. Sophia born.*
Tu.	9	
W.	10	
Th.	11	St. Martin.
F.	12	On mor. of St. M. 2 ret.
Sa.	13	Britius. [Cam. T. div. m.
Sun.	14	*22d Sunday after Trinity.*
M.	15	Machutus.
Tu.	16	
W.	17	Hugh Bp. of Lincoln.
Th.	18	In 8 days of St. Mart. 3 ret.
F.	19	
Sa.	20	Edm. K. and Martyr.
Sun.	21	*23d Sunday after Trinity.*
M.	22	Cecilia.
Tu.	23	St. Clement.
W.	24	
Th.	25	*D. of Glo. b.* Cath. In 15
F.	26	[days of St. Mart. 4 ret.
Sa.	27	
Sun.	28	*Advent-Sn.* Mich. T. ends.
M.	29	
Tu.	30	*St. Andrew.*

Phases of the MOON.

	D.	H.	M.
☽ *First Quarter* - - - -	2.	13.	11
○ Full Moon - - - - -	9.	6.	47
☾ *Last Quarter* - - - -	16.	19.	48
● New Moon - - - - -	24.	19.	55

Other *Phenomena.*

D.	H.	M.	
3.	5.	5	E. ☿ ♍, ✱ 11′¾ N. of ☽ 's C.
3.	8.	5¾	I. ♂ ♍, ✱ 6′¾ S. of ☽ 's C.
3.	9.	2	E. ♂ ♍, ✱ 12′¾ S. of ☽ 's C.
3.	16.	33	☽ ∠ ♒
4.	14.	12	☽ △ ♒
6.	20.	12	☽ ☌ ♓
8.	18.	29	Ing. of ☿ 's Cent. on ⊙ 's disk, ☿ 's Lat. 1′½ S.
9.	0.	0	Egr. ☿ 's Lat. 3′¼ N.
10.	0.	41	☽ ☍ Pleiadum.
11.	16.	8	☽ ☍ ♉
14.	1.	44	☽ ☌ ♊
15.	-	-	♂ Stationary.
15.	4.	46	☽ ☍ ♋
16.	-	-	♀ ☌ ♐, ✱ 5′½ South.
17.	1.	29	☽ ☍ ♌
17.	12.	43½	I. ☿ ♌, ✱ 4′¾ N. of ☽ 's C.
17.	13.	42½	E. ☿ ♌, ✱ 6′ N. of ☽ 's C.
18.	-	-	☿ Stationary.
18.	21.	34	☽ ☌ ♌
19.	-	-	♀ ☍ ♐, ✱ 16′ North.
22.	11.	25	⊙ enters ♐
27.	10.	13	☽ ☌ ♐
27.	14.	4	☽ ☍ ♐
27.	18.	20	☽ ☌ ♐
27.	21.	41	☽ ☌ ♀
30.	-	-	♃ ☌ ♍, ✱ 11′ North.
30.	10.	2	☽ ☍ ♍
30.	13.	2	☽ ☌ ♍
30.	21.	55	☽ ∠ ♒

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Ascen. in Time.	Declin. South.	Equation of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
M.	1	7. 8.22.17	14.23.57,7	14.18.41	16.12,9	
Tu.	2	7. 9.22.26	14.27.53,1	14.37.57	16.14,0	1,1
W.	3	7.10.22.36	14.31.49,3	14.56.58	16.14,4	0,4
Th.	4	7.11.22.48	14.35.46,3	15.15.44	16.14,0	0,4
F.	5	7.12.23. 1	14.39.44,1	15.34.16	16.12,8	1,2
Sa.	6	7.13.23.16	14.43.42,6	15.52.31	16.10,8	2,0
Sun.	7	7.14.23.32	14.47.42,0	16.10.31	16. 8,0	2,8
M.	8	7.15.23.50	14.51.42,2	16.28.14	16. 4,3	3,7
Tu.	9	7.16.24. 9	14.55.43,2	16.45.41	15.59,8	4,5
W.	10	7.17.24.30	14.59.45,1	17. 2.51	15.54,5	5,3
Th.	11	7.18.24.53	15. 3.47,9	17.19.43	15.48,3	6,2
F.	12	7.19.25.17	15. 7.51,4	17.36.17	15.41,3	7,0
Sa.	13	7.20.25.44	15.11.56,0	17.52.33	15.33,4	7,9
Sun.	14	7.21.26.12	15.16. 1,2	18. 8.31	15.24,7	8,7
M.	15	7.22.26.42	15.20. 7,5	18.24. 9	15.15,1	9,6
Tu.	16	7.23.27.15	15.24.14,5	18.39.28	15. 4,6	10,5
W.	17	7.24.27.49	15.28.22,5	18.54.28	14.53,3	11,3
Th.	18	7.25.28.24	15.32.31,2	19. 9. 7	14.41,1	12,2
F.	19	7.26.29. 2	15.36.40,9	19.23.25	14.28,0	13,1
Sa.	20	7.27.29.42	15.40.51,5	19.37.23	14.14,0	14,0
Sun.	21	7.28.30.23	15.45. 2,8	19.50.59	13.59,3	14,7
M.	22	7.29.31. 6	15.49.14,9	20. 4.14	13.43,7	15,6
Tu.	23	8. 0.31.51	15.53.28,0	20.17. 7	13.27,3	16,4
W.	24	8. 1.32.37	15.57.41,7	20.29.37	13.10,2	17,1
Th.	25	8. 2.33.24	16. 1.56,3	20.41.43	12.52,2	18,0
F.	26	8. 3.34.13	16. 6.11,5	20.53.28	12.33,5	18,7
Sa.	27	8. 4.35. 3	16.10.27,6	21. 4.48	12.14,1	19,4
Sun.	28	8. 5.35.54	16.14.44,4	21.15.45	11.53,9	20,2
M.	29	8. 6.36.46	16.19. 1,8	21.26.17	11.33,1	20,8
Tu.	30	8. 7.37.38	16.23.19,9	21.36.25	11.11,6	21,5

Days	Time of ☉'s Semidiam. pass^{s} Merid.	THE SUN's Semi-diameter	Hourly Motion.	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 6, 8	16. 10, 8	2. 30, 2	9. 996390	11. 8. 27
7	1. 7, 5	16. 12, 3	2. 30, 7	9. 995726	11. 8. 8
13	1. 8, 2	16. 13, 6	2. 31, 1	9. 995126	11. 7. 49
19	1. 8, 9	16. 14, 8	2. 31, 6	9. 994594	11. 7. 30
25	1. 9, 5	16. 16, 0	2. 32, 0	9. 994114	11. 7. 11

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite.

Immersions.

Days.	H. M. S.
1	5. 42. 28
3	0. 10. 55
4	18. 39. 21
6	13. 7. 43
8	7. 36. 2
10	2. 4. 20
11	20. 32. 33
13	15. 0. 44
15	9. 28. 52
17	3. 56. 57
18	22. 24. 58
*20	16. 52. 59
22	11. 20. 55
24	5. 48. 50
26	0. 16. 45
*27	18. 44. 32
29	13. 12. 18

II. Satellite.

Immersions.

Days.	H. M. S.
* 3	18. 8. 37
7	7. 25. 7
10	20. 41. 20
14	9. 57. 21
17	23. 13. 11
21	12. 28. 45
25	1. 44. 13
*28	14. 59. 30

III. Satellite.

Days.	H. M. S.	
3	11. 26. 39	Im.
3	14. 27. 21	E.
10	15. 24. 26	Im.
*10	18. 24. 14	E.
17	19. 21. 22	Im.
17	22. 20. 20	E.
24	23. 17. 32	Im.
25	2. 15. 38	E.

IV. Satellite.

6	6. 2. 47	Im.
6	9. 44. 24	E.
22	23. 57. 7	Im
23	3. 33. 6	E.

Days	Heliocentric Long.	Heliocentric Lat.	Geocentric Long.	Geocentric Lat.	Declin.	Passage Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
	☿ Gr. Elong. 25d. *MERCURY*				Inf. ☌ 8d. 21¼h.	
1	0. 2.46	4.49 S	7.24.17	2.16 S	21. 4 S	1. 1
4	0.18.16	3.16	7.22.10	1.33	19.52	0.42
7	1. 5. 5	1.20 S	7.18.46	0.38 S	18. 2	0.17
10	1.23. 5	0.52 N	7.14.49	0.24 N	15.56	23.42
13	2.11.50	3. 4	7.11.22	1.19	14. 0	23.19
16	3. 0.46	4.56	7. 9.20	2. 0	12.44	23. 2
19	3.19.11	6.15	7. 9. 1	2.22	12.16	22.50
22	4. 6.34	6.54	7.10.13	2.29	12.32	22.44
25	4.22.36	6.57	7.12.37	2.25	13.20	22.42
28	5. 7.12	6.32	7.15.48	2.13	14.28	22.42
30	5.16.10	6. 4	7.18.14	2. 2	15.19	22.43
	♀ *VENUS.*					
1	0. 2.45	3.14 S	8.24.47	4. 1 S	27.22 S	3.13
7	0.12.18	3. 1	9. 0. 3	4. 3	27.31	3.12
13	0.21.52	2.43	9. 4.53	3.58	27.20	3.10
19	1. 1.27	2.20	9. 9.10	3.44	26.52	3. 4
25	1.11. 3	1.53	9.12.44	3.19	26.10	2.55
	♂ *MARS.*					
1	2. 5.41	0.33 N	3.11.13	1. 5 N	24. 4N	16.23
7	2. 8.49	0.39	3.12. 4	1.20	24.15	16. 2
13	2.11.55	0.45	3.12.28	1.36	24.29	15.40
19	2.15. 0	0.50	3.12.23	1.53	24.46	15.15
25	2.18. 2	0.55	3.11.48	2.11	25. 7	14.47
	♃ *JUPITER.*					
1	5.20.21	1.15 N	5.27.15	1. 6 N	2. 7N	21.25
7	5.20.49	1.15	5.28.21	1. 7	1.41	21. 5
13	5.21.16	1.15	5.29.24	1. 8	1.17	20.45
19	5.21.43	1.16	6. 0.23	1. 9	0.54	20.24
25	5.22.11	1.16	6. 1.19	1.10	0.33	20. 2
	♄ *SATURN.*					
1	5.12.53	1.57 N	5.17.35	1.50 N	6.35N	20.50
7	5.13. 5	1.57	5.18. 9	1.51	6.24	20.28
13	5.13.18	1.57	5.18.39	1.52	6.13	20. 6
19	5.13.30	1.58	5.19. 6	1.54	6. 4	19.43
25	5.13.43	1.58	5.19.30	1.55	5.56	19.19
	♅ *GEORGIAN.*					
1	6. 7.55	0.42 N	6. 9.26	0.40 N	3. 8 S	22. 8
11	6. 8. 3	0.42	6. 9.59	0.40	3.21	21.30
2	6. 8.11	0.42	6.10.30	0.40	3.32	20.51

Days of the Week.	Days of the Month.	THE MOON'S Longitude. Noon. S. D. M. S.	Longitude. Midnight. S. D. M. S.	Latitude. Noon. D. M. S.	Latitude. Midnight. D. M. S.
M.	1	9. 18. 32. 22	9. 25. 23. 26	3. 58. 34 S	3. 34. 1 S
Tu.	2	10. 2. 17. 23	10. 9. 14. 17	3. 6. 11	2. 35. 23
W.	3	10. 16. 14. 7	10. 23. 16. 53	2. 2. 2	1. 26. 35
Th.	4	11. 0. 22. 27	11. 7. 30. 45	0. 49. 35 S	0. 11. 36 S
F.	5	11. 14. 41. 31	11. 21. 54. 27	0. 26. 46 N	1. 4. 52 N
Sa.	6	11. 29. 9. 10	0. 6. 25. 6	1. 42. 1	2. 17. 35
Sun.	7	0. 13. 41. 39	0. 20. 58. 6	2. 50. 54	3. 21. 23
M.	8	0. 28. 13. 37	1. 5. 27. 26	3. 48. 28	4. 11. 45
Tu.	9	1. 12. 38. 42	1. 19. 46. 35	4. 30. 53	4. 45. 35
W.	10	1. 26. 50. 21	2. 3. 49. 20	4. 55. 42	5. 1. 17
Th.	11	2. 10. 42. 59	2. 17. 30. 56	5. 2. 22	4. 59. 7
F.	12	2. 24. 12. 54	3. 0. 48. 46	4. 51. 47	4. 40. 37
Sa.	13	3. 7. 18. 37	3. 13. 42. 34	4. 25. 56	4. 8. 6
Sun.	14	3. 20. 0. 58	3. 26. 14. 10	3. 47. 27	3. 24. 21
M.	15	4. 2. 22. 40	4. 8. 27. 4	2. 59. 7	2. 32. 7
Tu.	16	4. 14. 27. 56	4. 20. 25. 56	2. 3. 39	1. 34. 2
W.	17	4. 26. 21. 48	5. 2. 16. 10	1. 3. 33	0. 32. 32 N
Th.	18	5. 8. 9. 46	5. 14. 3. 18	0. 1. 13 N	0. 30. 4 S
F.	19	5. 19. 57. 27	5. 25. 52. 55	1. 1. 4 S	1. 31. 30
Sa.	20	6. 1. 50. 16	6. 7. 50. 4	2. 1. 3	2. 29. 25
Sun.	21	6. 13. 52. 51	6. 19. 59. 4	2. 56. 19	3. 21. 24
M.	22	6. 26. 9. 3	7. 2. 23. 5	3. 44. 21	4. 4. 51
Tu.	23	7. 8. 41. 24	7. 15. 4. 4	4. 22. 34	4. 37. 12
W.	24	7. 21. 31. 6	7. 28. 2. 27	4. 48. 26	4. 56. 2
Th.	25	8. 4. 37. 54	8. 11. 17. 14	4. 59. 47	4. 59. 30
F.	26	8. 18. 0. 10	8. 24. 46. 20	4. 55. 5	4. 46. 28
Sa.	27	9. 1. 35. 24	9. 8. 26. 56	4. 33. 43	4. 16. 56
Sun.	28	9. 15. 20. 36	9. 22. 16. 4	3. 56. 16	3. 32. 2
M.	29	9. 29. 13. 1	10. 6. 11. 13	3. 4. 33	2. 34. 9
Tu.	30	10. 13. 10. 26	10. 20. 10. 32	2. 1. 22	1. 26. 38

Days of the Week.	Days of the Month.	THE MOON's Age.	Passage Merid.	Right Ascension. Noon.	Right Ascension. Midnight.	Declination. Noon.	Declination. Midnight.
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
M.	1	7	5. 12	290. 41	298. 5	26. 7 S	24. 36 S
Tu.	2	8	6. 7	305. 19	312. 25	22. 42	20. 28
W.	3	9	7. 0	319. 20	326. 7	17. 56	15. 8
Th.	4	10	7. 51	332. 45	339. 17	12. 8	8. 56
F.	5	11	8. 40	345. 44	352. 8	5. 37 S	2. 13 S
Sa.	6	12	9. 29	358. 33	4. 59	1. 13 N	4. 39 N
Sun.	7	13	10. 19	11. 29	18. 5	8. 2	11. 18
M.	8	14	11. 11	24. 48	31. 41	14. 25	17. 18
Tu.	9	15	12. 6	38. 44	45. 56	19. 57	22. 17
W.	10	16	13. 4	53. 17	60. 46	24. 16	25. 52
Th.	11	17	14. 2	68. 19	75. 54	27. 4	27. 51
F.	12	18	15. 1	83. 27	90. 55	28. 12	28. 8
Sa.	13	19	15. 56	98. 14	105. 22	27. 41	26. 52
Sun.	14	20	16. 47	112. 17	118. 57	25. 43	24. 16
M.	15	21	17. 34	125. 23	131. 35	22. 33	20. 37
Tu.	16	22	18. 18	137. 34	143. 21	18. 29	16. 11
W.	17	23	18. 59	148. 58	154. 27	13. 44	11. 11
Th.	18	24	19. 38	159. 49	165. 7	8. 32	5. 49
F.	19	25	20. 18	170. 22	175. 37	3. 3 N	0. 14 N
Sa.	20	26	20. 57	180. 53	186. 12	2. 35 S	5. 24 S
Sun.	21	27	21. 38	191. 37	197. 9	8. 11	10. 56
M.	22	28	22. 23	202. 51	208. 44	13. 35	16. 8
Tu.	23	29	23. 12	214. 49	221. 9	18. 33	20. 47
W.	24	1	♂	227. 44	234. 34	22. 48	24. 33
Th.	25	2	0. 5	241. 39	248. 58	26. 0	27. 6
F.	26	3	1. 2	256. 27	264. 5	27. 49	28. 8
Sa.	27	4	2. 1	271. 48	279. 30	28. 1	27. 28
Sun.	28	5	3. 1	287. 9	294. 41	26. 30	25. 7
M.	29	6	3. 58	302. 4	309. 15	23. 21	21. 14
Tu.	30	7	4. 52	316. 15	323. 4	18. 49	16. 9

Days of the Week.	Days of the Month.	The Moon's Semidiameter.		Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*		
		M. S.	M. S.	M. S.	M. S.	*Noon.*	*Midn.*
M.	1	15. 53	15. 57	58. 18	58. 33	4896	4877
Tu.	2	16. 1	16. 5	58. 48	59. 2	4859	4842
W.	3	16. 9	16. 12	59. 16	59. 28	4824	4810
Th.	4	16. 15	16. 18	59. 39	59. 50	4797	4783
F.	5	16. 20	16. 22	59. 58	60. 4	4773	4766
Sa.	6	16. 23	16. 23	60. 7	60. 9	4763	4760
Sun.	7	16. 23	16. 22	60. 7	60. 2	4763	4769
M.	8	16. 19	16. 16	59. 54	59. 43	4778	4792
Tu.	9	16. 13	16. 8	59. 29	59. 12	4809	4830
W.	10	16. 3	15. 57	58. 53	58. 32	4853	4878
Th.	11	15. 51	15. 44	58. 10	57. 46	4906	4936
F.	12	15. 38	15. 31	57. 22	56. 58	4966	4996
Sa.	13	15. 25	15. 19	56. 35	56. 12	5026	5055
Sun.	14	15. 13	15. 8	55. 51	55. 32	5082	5107
M.	15	15. 3	14. 59	55. 15	55. 0	5129	5149
Tu.	16	14. 56	14. 53	54. 47	54. 37	5166	5179
W.	17	14. 51	14. 49	54. 29	54. 24	5190	5197
Th.	18	14. 49	14. 49	54. 22	54. 22	5199	5199
F.	19	14. 50	14. 51	54. 25	54. 30	5195	5189
Sa.	20	14. 53	14. 55	54. 37	54. 46	5179	5167
Sun.	21	14. 59	15. 2	54. 58	55. 11	5152	5134
M.	22	15. 6	15. 10	55. 25	55. 41	5116	5095
Tu.	23	15. 15	15. 19	55. 57	56. 14	5075	5053
W.	24	15. 24	15. 29	56. 31	56. 48	5031	5009
Th.	25	15. 33	15. 38	57. 5	57. 22	4987	4966
F.	26	15. 42	15. 46	57. 38	57. 52	4946	4928
Sa.	27	15. 50	15. 53	58. 6	58. 19	4911	4895
Sun.	28	15. 56	15. 59	58. 30	58. 41	4881	4867
M.	29	16. 2	16. 4	58. 50	58. 57	4856	4848
Tu.	30	16. 6	16. 7	59. 4	59. 10	4839	4832

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
	1	106. 47. 42	105. 5. 50	103. 23. 46	101. 41. 29	99. 59. 0	98. 16. 18	96. 33. 23	94. 50. 16
	2	93. 6. 56	91. 23. 23	89. 39. 38	87. 55. 41	86. 11. 31	84. 27. 9	82. 42. 35	80. 57. 50
α Arietis.	3	79. 12. 52	77. 27. 42	75. 42. 21	73. 56. 49	72. 11. 5	70. 25. 11	68. 39. 8	66. 52. 54
	4	65. 6. 30	63. 19. 56	61. 33. 12	59. 46. 21	57. 59. 21	56. 12. 13	54. 25. 0	52. 37. 40
	5	50. 50. 13							
	5	82. 25. 37	80. 39. 3	78. 52. 22	77. 5. 37	75. 18. 44	73. 31. 48	71. 44. 49	69. 57. 49
	6	68. 10. 46	66. 23. 43	64. 36. 42	62. 49. 42	61. 2. 45	59. 15. 51	57. 29. 4	55. 42. 24
Aldebaran.	7	53. 55. 50	52. 9. 26	50. 23. 13	48. 37. 16	46. 51. 31	45. 6. 2	43. 20. 55	41. 36. 11
	8	39. 51. 50	38. 7. 51	36. 24. 30	34. 41. 46	32. 59. 40	31. 18. 23	29. 37. 59	27. 58. 31
	9	26. 20. 4							
	9	67. 31. 38	65. 44. 44	63. 58. 5	62. 11. 41	60. 25. 34	58. 39. 43	56. 54. 10	55. 8. 54
Pollux.	10	53. 23. 57	51. 39. 19	49. 55. 1	48. 11. 3	46. 27. 25	44. 44. 8	43. 1. 12	41. 18. 40
	11	39. 36. 30							
	11	76. 23. 22	74. 41. 13	72. 59. 26	71. 18. 2	69. 36. 59	67. 56. 18	66. 16. 0	64. 36. 3
	12	62. 56. 28	61. 17. 15	59. 38. 25	57. 59. 56	56. 21. 49	54. 44. 4	53. 6. 41	51. 29. 39
Regulus.	13	49. 52. 58	48. 16. 38	46. 40. 39	45. 5. 0	43. 29. 42	41. 54. 43	40. 20. 4	38. 45. 43
	14	37. 11. 42	35. 37. 59	34. 4. 33	32. 31. 25	30. 58. 34	29. 26. 0	27. 53. 41	26. 21. 38
	15	24. 49. 51							

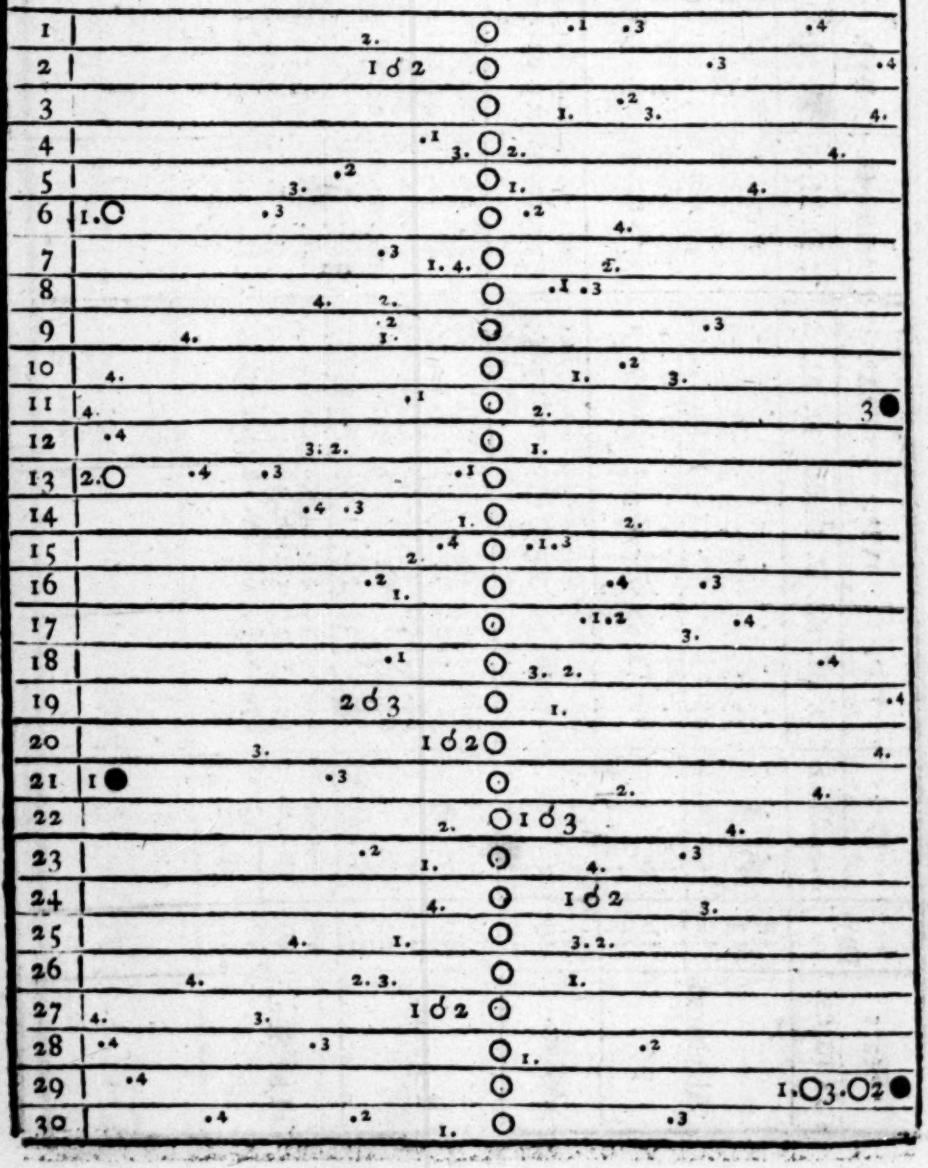
Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Spica ♍.	15	78. 50. 31	77. 18. 58	75. 47. 38	74. 16. 31	72. 45. 39	71. 14. 59	69. 44. 30	68. 14. 12
	16	66. 44. 5	65. 14. 8	63. 44. 21	62. 14. 41	60. 45. 11	59. 15. 48	57. 46. 31	56. 17. 20
	17	54. 48. 15							
The Sun.	14	121, 20. 38	119. 54. 53	118. 29. 25	117. 4. 15	115. 39. 21	114. 14. 44	112. 50. 20	111. 26. 13
	15	110. 2. 20	108. 38. 41	107. 15. 14	105. 52. 1	104. 29. 1	103. 6. 14	101. 43. 37	100. 21. 12
	16	98. 58. 58	97. 36. 53	96. 14. 57	94. 53. 10	93. 31. 31	92. 9. 59	90. 48. 34	89. 27. 15
	17	88. 6. 2	86. 44. 55	85. 23. 51	84. 2. 52	82. 41. 57	81. 21. 5	80. 0. 14	78. 39. 25
	18	77. 18. 38	75. 57. 51	74. 37. 4	73. 16. 16	71. 55. 28	70. 34. 37	69. 13. 44	67. 52. 48
	19	66. 31. 49	65. 10. 46	63. 49. 38	62. 28. 25	61. 7. 7	59. 45. 43	58. 24. 13	57. 2. 36
	20	55. 40. 53	54. 19. 2	52. 57. 3	51. 34. 55	50. 12. 40	48. 50. 16	47. 27. 42	46. 4. 59
	21	44. 42. 7	43. 19. 5	41. 55. 52	40. 32. 29	39. 8. 56			
Fomalhaut.	26	- - -	- - -	- - -	- - -	66. 12. 16	64. 38. 26	63. 4 37	61. 30. 52
	27	59. 57. 11	58. 23. 39	56. 50. 18	55. 17. 11	53. 44. 17	52. 11. 38	50. 39. 23	49. 7. 33
	28	47. 36. 9	46. 5. 19	44. 35. 3	43. 5. 26	41. 36. 32			
α Arietis.	28	- - -	- - -	- - -	- - -	103. 3. 8	101. 19. 33	99. 35. 51	97. 52. 2
	29	96. 8. 6	94. 24. 3	92. 39. 55	90. 55. 41	89. 11. 22	87 26. 58	85. 42. 29	83. 57. 55
	30	82. 13. 17	80. 28. 35	78. 43. 48	76. 58. 58	75. 14. 5	73. 29. 9	71. 44. 10	69. 59. 9
	D. 1	68. 14. 5							

DISTANCES of MOON's *Center* from SUN, and from STARS *WEST* of her.

Stars Names.	Days	*Noon.*	IIIh.	VIh.	IXh.	*Midnight.*	XVh.	XVIIIh.	XXIh.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
The Sun.	1	70. 13. 3	71. 47. 40	73. 22. 28	74. 57. 29	76. 32. 41	78. 8. 6	79. 43. 43	81. 19. 33
	2	82. 55. 35	84. 31. 50	86. 8. 17	87. 44. 57	89. 21. 49	90. 58. 53	92. 36. 9	94. 13. 38
	3	95. 51. 18	97. 29. 11	99. 7. 15	100. 45. 31	102. 23. 58	104. 2. 36	105. 41. 24	107. 20. 23
	4	108. 59. 32	110. 38. 53	112. 18. 23	113. 58. 2	115. 37. 51	117. 17. 48	118. 57. 53	120. 38. 6
	5	122. 18. 26							
Antares.	2	- - -	- - -	- - -	- - -	62. 7. 28	63. 52. 21	65. 37. 27	67. 22. 45
	3	69. 8. 16	70. 53. 59	72. 39. 53	74. 26. 0	76. 12. 18	77. 58. 47	79. 45. 28	81. 32. 19
	4	83. 19. 22	85. 6. 36	86. 54. 0	88. 41. 34	90. 29. 18	92. 17. 12	94. 5. 14	95. 53. 25
	5	97. 41. 45	99. 30. 13	101. 18. 47	103. 7. 29	104. 56. 18			
α Aquilæ.	5	- - -	- - -	- - -	- - -	57. 39. 56	59. 4. 22	60. 29. 40	61. 55. 47
	6	63. 22. 37	64. 50. 10	66. 18. 18	67. 47. 0	69. 16. 15	70. 45. 56	72. 15. 59	73. 46. 24
	7	75. 17. 9	76. 48. 9	78. 19. 19	79. 50. 41	81. 22. 11	82. 53. 46	84. 25. 24	85. 57. 2
	8	87. 28. 38							
α Pegasi.	8	39. 44. 58	41. 20. 3	42. 55. 48	44. 32. 9	46. 9. 3	47. 46. 27	49. 24. 10	51. 2. 15
	9	52. 40. 38	54. 19. 9	55. 57. 47	57. 36. 30	59. 15. 20	60. 54. 9	62. 32. 57	64. 11. 41
	10	65. 50. 16							
α Arietis.	10	22. 18. 29	23. 59. 57	25. 41. 25	27. 22. 52	29. 4. 19	30. 45. 43	32. 26. 57	34. 8. 2
	11	35. 48. 59	37. 29. 39	39. 10. 5	40. 50. 15	42. 30. 10	44. 9. 46	45. 49. 4	47. 28. 4
	12	49. 6. 45	50. 45. 7	52. 23. 9	54. 0. 51	55. 38. 13			

Stars Names.	Days	*Noon.*	III^{h}.	VI^{h}.	IX^{h}.	*Midnight.*	XV^{h}.	XVIII^{h}.	XXI^{h}.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Aldebaran.	12	- - -	- - -	- - -	- - -	25. 49. 18	27. 18. 41	28. 48. 25	30. 18. 29
	13	31. 48. 50	33. 19. 25	34. 50. 7	36. 20. 54	37. 51. 49	39. 22. 38	40. 53. 24	42. 24. 7
	14	43. 54. 46	45. 25. 16	46. 55. 39	48. 25. 53	49. 56. 2	51. 25. 59	52. 55. 47	54. 25. 26
	15	55. 54. 56	57. 24. 17	58. 53. 30	60. 22. 34	61. 51. 29	63. 20. 14	64. 48. 52	66. 17. 21
	16	67. 45. 42	69. 13. 55	70. 42. 1	72. 10. 1	73. 37. 54	75. 5. 41	76. 33. 24	78. 1. 2
	17	79. 28. 35							
Pollux.	17	36. 11. 33	37. 40. 15	39. 8. 54	40. 37. 31	42. 6. 5	43. 34. 37	45. 3. 8	46. 31. 39
	18	48. 0. 9	49. 28. 39	50. 57. 10	52. 25. 43	53. 54. 18	55. 22. 55	56. 51. 35	58. 20. 20
	19	59. 49. 8							
Regulus.	19	22. 54. 37	24. 23. 38	25. 52. 45	27. 21. 57	28. 51. 14	30. 20. 38	31. 50. 8	33. 19. 47
	20	34. 49. 33	36. 19. 28	37. 49. 32	39. 19. 46	40. 50. 9	42. 20. 43	43. 51. 28	45. 22. 24
	21	46. 53. 31	48. 24. 50	49. 56. 21	51. 28. 4	53. 0. 0	54. 32. 9	56. 4. 31	57. 37. 8
	22	59. 9. 57	60. 43. 1	62. 16. 19	63. 49. 52	65. 23. 40	66. 57. 43	68. 32. 0	70. 6. 33
	23	71. 41. 21	73. 16. 24	74. 51. 43	76. 27. 17	78. 3. 6			
The Sun.	28	39. 54. 26	41. 29. 34	43. 4. 53	44. 40. 21	46. 16. 0	47. 51. 48	49. 27. 44	51. 3. 49
	29	52. 40. 2	54. 16. 23	55. 52. 50	57. 29. 24	59. 6. 5	60. 42. 52	62. 19. 44	63. 56. 43
	30	65. 33. 46	67. 10. 55	68. 48. 8	70. 25. 26	72. 2. 48	73. 40. 15	75. 17. 45	76. 55. 19
	D. 1	78. 32. 55							

CONFIGURATIONS of the SATELLITES of JUPITER at VI o'Clock in the *Morning*.



Days of the Week.	Days of the Month.	*Sundays, Holidays, Terms, &c.*
W.	1	
Th.	2	
F.	3	
Sa.	4	
Sun.	5	*2d Sunday in Advent.*
M.	6	Nicholas.
Tu.	7	
W.	8	Concep. of V. Mary.
Th.	9	
F.	10	
Sa.	11	
Sun.	12	*3d Sunday in Advent.*
M.	13	Lucy.
Tu.	14	
W.	15	
Th.	16	O Sap. Cam. T. ends.
F.	17	Oxford Term ends.
Sa.	18	
Sun.	19	*4th Sunday in Advent.*
M.	20	
Tu.	21	*St. Thomas.*
W.	22	
Th.	23	
F.	24	
Sa.	25	*Chriſtmas-Day.*
Sun.	26	*1ſt Su. aft. Chr. St. Stephen.*
M.	27	*St. John.*
Tu.	28	*Innocents.*
W.	29	
Th.	30	
F.	31	Silveſter.

Phaſes of the MOON.

		D.	H.	M.
☽	*Firſt Quarter*	1.	21.	4
○	Full Moon	8.	19.	40
☾	*Laſt Quarter*	16.	17.	33
●	New Moon	24.	9.	40
☽	*Firſt Quarter*	31.	5.	3

Other *Phenomena.*

D.	H.	M.	
1.	19.	52	☽ ☌ ♒
4.	3.	16	☽ ☌ ♓
7.	9.	42	☽ ☌ Pleiadum.
8.	-	-	☿ ☌ ♏ in contact.
9.	1.	27	☽ ☌ ♉
10.	-	-	♀ Stationary.
10.	10.	25	☽ ☍ ♂
11.	8.	58	I. ✕ ♊, ✱ 1′ S.
11.	10.		1½E. 2′⅓S. of ☽'s C.
12.	13.	24	☽ ☌ ♋
12.	-	-	♂ ☌ ♊, ✱ 58′ S.
14.	4.	36	☽ ☌ ♌
14.	9.	38	☽ ☌ ♌
14.	22.	51	☽ ☌ ♌
16.	5.	36	☽ ☌ ♌
21.	23.	51	☉ enters ♑
22.	0.	48	☽ ☌ ♍
27.	16.	6	☽ ☌ ♑
29.	1.	15	☽ ☌ ♒
31.	-	-	♄ Stationary.
31.	8.	28	☽ ☌ ♓

Days of the Week.	Days of the Month.	THE SUN's Longitude.	R^t. Ascen. in Time.	Declin. South.	Equation of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
W.	1	8. 8. 38. 32	16. 27. 38, 7	21. 46. 8	10. 49, 5	22, 8
Th.	2	8. 9. 39. 27	16. 31. 58, 1	21. 55. 26	10. 26, 7	23, 4
F.	3	8. 10. 40. 22	16. 36. 18, 1	22. 4. 18	10. 3, 3	24, 0
Sa.	4	8. 11. 41. 18	16. 40. 38, 6	22. 12. 45	9. 39, 3	24, 5
Sun.	5	8. 12. 42. 14	16. 44. 59, 8	22. 20. 46	9. 14, 8	25, 1
M.	6	8. 13. 43. 12	16. 49. 21, 6	22. 28. 21	8. 49, 7	25, 6
Tu.	7	8. 14. 44. 10	16. 53. 43, 8	22. 35. 30	8. 24, 1	26, 0
W.	8	8. 15. 45. 8	16. 58. 6, 4	22. 42. 12	7. 58, 1	26, 6
Th.	9	8. 16. 46. 8	17. 2. 29, 6	22. 48. 28	7. 31, 5	27, 9
F.	10	8. 17. 47. 9	17. 6. 53, 2	22. 54. 16	7. 4, 5	27, 4
Sa.	11	8. 18. 48. 10	17. 11. 17, 3	22. 59. 37	6. 37, 1	27, 8
Sun.	12	8. 19. 49. 12	17. 15. 41, 8	23. 4. 31	6. 9, 3	28, 2
M.	13	8. 20. 50. 15	17. 20. 6, 6	23. 8. 57	5. 41, 1	28, 5
Tu.	14	8. 21. 51. 19	17. 24. 31, 7	23. 12. 56	5. 12, 6	28, 9
W.	15	8. 22. 52. 25	17. 28. 57, 2	23. 16. 27	4. 43, 7	29, 1
Th.	16	8. 23. 53. 30	17. 33. 23, 0	23. 19. 30	4. 14, 6	29, 4
F.	17	8. 24. 54. 37	17. 37. 49, 0	23. 22. 6	3. 45, 2	29, 6
Sa.	18	8. 25. 55. 45	17. 42. 15, 3	23. 24. 13	3. 15, 6	29, 8
Sun.	19	8. 26. 56. 54	17. 46. 41, 7	23. 25. 52	2. 45, 8	29, 9
M.	20	8. 27. 58. 3	17. 51. 8, 2	23. 27. 2	2. 15, 9	30, 1
Tu.	21	8. 28. 59. 13	17. 55. 35, 0	23. 27. 45	1. 45, 8	30, 1
W.	22	9. 0. 0. 24	18. 0. 1, 8	23. 27. 59	1. 15, 7	30, 2
Th.	23	9. 1. 1. 36	18. 4. 28, 6	23. 27. 44	0. 45, 5	30, 2
F.	24	9. 2. 2. 47	18. 8. 55, 4	23. 27. 2	0. 15, 3	30, 1
Sa.	25	9. 3. 3. 59	18. 13. 22, 2	23. 25. 50	*Add.* 14, 8	30, 1
Sun.	26	9. 4. 5. 12	18. 17. 48, 9	23. 24. 11	0. 44, 9	29, 9
M.	27	9. 5. 6. 24	18. 22. 15, 5	23. 22. 3	1. 14, 8	29, 8
Tu.	28	9. 6. 7. 36	18. 26. 41, 8	23. 19. 27	1. 44, 6	29, 6
W.	29	9. 7. 8. 48	18. 31. 8, 1	23. 16. 23	2. 14, 2	29, 3
Th.	30	9. 8. 10. 0	18. 35. 34, 0	23. 12. 51	2. 43, 5	29, 1
F.	31	9. 9. 11. 12	18. 39. 59, 8	23. 8. 51	3. 12, 6	

Days	Time of ⊙'s Semidiam. pass^s Merid.	THE SUN's Semi-diameter	Hourly Motion	Logar. Distance.	Place of the ☽'s Node.
	M. S.	M. S.	M. S.		S. D. M.
1	1. 10, 1	16. 16, 9	2. 32, 2	9. 993673	11. 6. 52
7	1. 10, 6	16. 17, 8	2. 32, 4	9. 993297	11. 6. 33
13	1. 11, 0	16. 18, 4	2. 32, 7	9. 993014	11. 6. 14
19	1. 11, 1	16. 18, 9	2. 32, 8	9. 992828	11. 5. 55
25	1. 11, 1	16. 19, 2	2. 32, 9	9. 992708	11. 5. 36

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite. *Immersions.*		II. Satellite. *Immersions.*		III. Satellite.		
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.	
1	7. 40. 3	2	4. 14. 38	2	3. 13. 4	Im.
3	2. 7. 46	* 5	17. 29. 36	2	6. 10. 17	E.
4	20. 35. 27	9	6. 44. 23	9	7. 7. 55	Im.
* 6	15. 3. 6	12	19. 59. 3	9	10. 4. 15	E.
8	9. 30. 40	16	9. 13. 44	16	11. 2. 27	Im.
10	3. 58. 20	19	22. 28. 21	*16	13. 57. 56	E.
11	22. 25. 51	23	11. 42. 56	*23	14. 56. 44	Im.
*13	16. 53. 27	27	0. 57. 23	*23	17. 51. 18	E.
15	11. 20. 55	*30	14. 12. 3	*30	18. 51. 2	Im.
17	5. 48. 30			30	21. 44 42	E.
19	0. 15. 55					
*20	18. 43. 26			IV. Satellite.		
*22	13. 10. 56					
24	7. 38. 24			* 9	17. 47. 41	Im.
26	2. 5. 55			9	21. 17. 41	E.
27	20. 33. 21			26	11. 36. 25	Im.
*29	15. 0. 51			*26	15. 0. 14	E.
31	9. 28. 22					

Days	THE PLANETS					
	Heliocentric		Geocentric		Declin.	Paſſage Merid.
	Long.	Lat.	Long.	Lat.		
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
	☿		*MERCURY.*			
1	5. 20. 27	5. 47 N	7. 19. 31	1. 56 N	15. 46 S	22. 44
4	6. 2. 29	4. 50	7. 23. 34	1. 37	17. 7	22. 47
7	6. 13. 32	3. 46	7. 27. 49	1. 15	18. 28	22. 51
10	6. 23. 45	2. 40	8. 2. 12	0. 53	19. 45	22. 56
13	7. 3. 20	1. 33	8. 6. 40	0. 31	20. 57	23. 1
16	7. 12. 25	0. 26 N	8. 11. 12	0. 9 N	22. 0	23. 7
19	7. 21. 8	0. 38 S	8. 15. 46	0. 12 S	22. 55	23. 13
22	7. 29. 35	1. 39	8. 20. 23	0. 33	23. 40	23. 21
25	8. 7. 53	2. 37	8. 25. 2	0. 52	24. 14	23. 27
28	8. 16. 7	3. 31	8. 29. 44	1. 9	24. 37	23. 34
31	8. 24. 23	4. 21	9. 4. 27	1. 25	24. 48	23. 42
	♀		*VENUS.*			
1	1. 20. 40	1. 24 S	9. 15. 23	2. 42 S	25. 15 S	2. 40
7	2. 0. 18	0. 51	9. 16. 54	1. 50	24. 12	2. 20
13	2. 9. 58	0. 17 S	9. 17. 4	0. 41	23. 3	1. 54
19	2. 19. 38	0. 17 N	9. 15. 44	0. 43	21. 50	1. 21
25	2. 29. 20	0. 51	9. 13. 4	2. 16	20. 34	0. 42
	♂		*MARS.*			☌ 24d. 13½h.
1	2. 21. 3	1. 0 N	3. 10. 40	2. 29 N	25. 31 N	14. 16
7	2. 24. 2	1. 5	3. 9. 5	2. 46	25. 55	13. 43
13	2. 27. 0	1. 10	3. 7. 6	3. 1	26. 18	13. 8
19	2. 29. 55	1. 14	3. 4. 50	3. 15	26. 37	12. 32
25	3. 2. 50	1. 18	3. 2. 27	3. 25	26. 52	11. 54
	♃		*JUPITER.*			□ 26d. 21½h.
1	5. 22. 38	1. 16 N	6. 2. 12	1. 12 N	0. 13 N	19. 39
7	5. 23. 6	1. 16	6. 3. 0	1. 13	0. 5 S	19. 16
13	5. 23. 33	1. 16	6. 3. 42	1. 14	0. 20	18. 52
19	5. 24. 0	1. 16	6. 4. 20	1. 16	0. 34	18. 28
25	5. 24. 28	1. 17	6. 4. 52	1. 17	0. 45	18. 3
	♄		*SATURN.*			□ 12d. 13h.
1	5. 13. 55	1. 58 N	5. 19. 51	1. 57 N	5. 49 N	18. 55
7	5. 14. 8	1. 59	5. 20. 9	1. 58	5. 43	18. 30
13	5. 14. 20	1. 59	5. 20. 23	2. 0	5. 39	18. 5
19	5. 14. 33	1. 59	5. 20. 33	2. 1	5. 37	17. 39
25	5. 14. 45	2. 0	5. 20. 39	2. 3	5. 36	17. 12
	♅		*GEORGIAN.*			
1	6. 8. 19	0. 42 N	6. 10. 56	0. 41 N	3. 43 S	20. 10
11	6. 8. 27	0. 42	6. 11. 19	0. 41	3. 51	19. 28
21	6. 8. 34	0. 42	6. 11. 36	0. 41	3. 58	18. 45
31	6. 8. 42	0. 42	6. 11. 48	0. 42	4. 2	18. 1

Days of the Week.	Days of the Month.	THE MOON's Longitude. Noon.	Longitude. Midnight.	Latitude. Noon.	Latitude. Midnight.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
W.	1	10. 27. 11. 23	11. 4. 12. 56	0. 50. 30 S	0. 13. 31 S
Th.	2	11. 11. 15. 6	11. 18. 17. 49	0. 23. 43 N	1. 0. 38 N
F.	3	11. 25. 21. 2	0. 2. 24. 38	1. 36. 41	2. 11. 15
Sa.	4	0. 9. 28. 22	0. 16. 32. 7	2. 43. 45	3. 13. 42
Sun.	5	0. 23. 35. 37	1. 0. 38. 26	3. 40. 40	4. 4. 11
M.	6	1. 7. 40. 11	1. 14. 40. 25	4. 23. 53	4. 39. 30
Tu.	7	1. 21. 38. 35	1. 28. 34. 13	4. 50. 54	4. 57. 57
W.	8	2. 5. 26. 45	2. 12. 15. 43	5. 0. 34	4. 58. 50
Th.	9	2. 19. 0. 42	2. 25. 41. 19	4. 52. 56	4. 43. 2
F.	10	3. 2. 17. 18	3. 8. 48. 26	4. 29. 26	4. 12. 26
Sa.	11	3. 15. 14. 41	3. 21. 36. 3	3. 52. 22	3. 29. 37
Sun.	12	3. 27. 52. 41	4. 4. 4. 49	3. 4. 31	2. 37. 30
M.	13	4. 10. 12. 47	4. 16. 17. 0	2. 8. 54	1. 39. 4
Tu.	14	4. 22. 17. 56	4. 28. 16. 9	1. 8. 21	0. 37. 4 N
W.	15	5. 4. 12. 16	5. 10. 6. 55	0. 5. 33 N	0. 25. 56 S
Th.	16	5. 16. 0. 49	5. 21. 54. 36	0. 57. 5 S	1. 27. 36
F.	17	5. 27. 49. 0	6. 3. 44. 41	1. 57. 15	2. 25. 44
Sa.	18	6. 9. 42. 24	6. 15. 42. 48	2. 52. 47	3. 18. 6
Sun.	19	6. 21. 46. 29	6. 27. 54. 3	3. 41. 25	4. 2. 25
M.	20	7. 4. 6. 1	7. 10. 22. 49	4. 20. 48	4. 36. 17
Tu.	21	7. 16. 44. 48	7. 23. 12. 13	4. 48. 33	4. 57. 19
W.	22	7. 29. 45. 11	8. 6. 23. 43	5. 2. 20	5. 3. 21
Th.	23	8. 13. 7. 41	8. 19. 56. 52	5. 0. 10	4. 52. 42
F.	24	8. 26. 50. 50	9. 3. 49. 9	4. 40. 53	4. 24. 47
Sa.	25	9. 10. 51. 13	9. 17. 56. 25	4. 4. 30	3. 40. 16
Sun.	26	9. 25. 4. 2	10. 2. 13. 26	3. 12. 26	2. 41. 24
M.	27	10. 9. 23. 54	10. 16. 34. 49	2. 7. 40	1. 31. 51
Tu.	28	10. 23. 45. 39	11. 0. 55. 52	0. 54. 31 S	0. 16. 19 S
W.	29	11. 8. 5. 7	11. 15. 13. 3	0. 22. 5 N	1. 0. 3 N
Th.	30	11. 22. 19. 25	11. 29. 24. 4	1. 36. 57	2. 12. 14
F.	31	0. 6. 26. 51	0. 13. 27. 41	2. 45. 20	3. 15. 46

Days of the Week.	Days of the Month.	THE MOON's Age.	Passage Merid.	Right Ascension. Noon.	Right Ascension. Midnight.	Declination. Noon.	Declination. Midnight.
		D.	H. M.	D. M.	D. M.	D. M.	D. M.
W.	1	8	5.42	329.42	336.11	13.15 S	10.11 S
Th.	2	9	6.31	342.33	348.51	6.59	3.42 S
F.	3	10	7.18	355. 5	1.20	0.22 S	2.58 N
Sa.	4	11	8. 5	7.37	13.59	6.16 N	9.29
Sun.	5	12	8.55	20.27	27. 2	12.35	15.31
M.	6	13	9.47	33.48	40.44	18.14	20.42
Tu.	7	14	10.42	47.51	55. 7	22.52	24.42
W.	8	15	11.39	62.32	70. 3	26. 9	27.13
Th.	9	16	12.37	77.36	85. 8	27.53	28. 7
F.	10	17	13.34	92.35	99.54	27.56	27.22
Sa.	11	18	14.27	107. 2	113.57	26.26	25.11
Sun.	12	19	15.16	120.38	127. 5	23.37	21.48
M.	13	20	16. 1	133.17	139.16	19.46	17.33
Tu.	14	21	16.44	145. 3	150.39	15.10	12.40
W.	15	22	17.23	156. 7	161.29	10. 4	7.23
Th.	16	23	18. 2	166.46	172. 0	4.39 N	1.52 N
F.	17	24	18.41	177.13	182.28	0.55 S	3.43 S
Sa.	18	25	19.21	187.47	193.11	6.30	9.14
Sun.	19	26	20. 3	198.43	204.25	11.55	14.30
M.	20	27	20.50	210.18	216.26	16.59	19.19
Tu.	21	28	21.41	222.48	229.27	21.28	23.23
W.	22	29	22.37	236.22	243.34	25. 2	26.23
Th.	23	30	23.36	251. 0	258.39	27.22	27.57
F.	24	1	☌	266.26	274.18	28. 6	27.49
Sa.	25	2	0.37	282.11	289.59	27. 5	25.54
Sun.	26	3	1.36	297.39	305. 9	24.18	22.18
M.	27	4	2.33	312.26	319.31	19.58	17.21
Tu.	28	5	3.26	326.24	333. 5	14.29	11.25
W.	29	6	4.16	339.36	346. 0	8.12	4.55 S
Th.	30	7	5. 3	352.19	358.34	1.34 S	1.47 N
F.	31	8	5.50	4.49	11. 6	5. 5 N	8.19

Days of the Week.	Days of the Month.	THE MOON's Semidiameter.		Hor. Parallax.		Proportional Logarithm.	
		Noon.	*Midnight.*	*Noon.*	*Midnight.*		
		M. S.	M. S.	M. S.	M. S.	*Noon.*	*Midn.*
W.	1	16. 8	16. 10	59. 13	59. 18	4828	4822
Th.	2	16. 10	16. 10	59. 21	59. 21	4819	4819
F.	3	16. 11	16. 10	59. 22	59. 21	4817	4819
Sa.	4	16. 10	16. 9	59. 19	59. 15	4821	4826
Sun.	5	16. 7	16. 5	59. 10	59. 3	4832	4841
M.	6	16. 3	16. 1	58. 55	58. 45	4850	4863
Tu.	7	15. 58	15. 54	58. 34	58. 20	4876	4893
W.	8	15. 50	15. 45	58. 5	57. 48	4912	4933
Th.	9	15. 40	15. 35	57. 31	57. 13	4955	4977
F.	10	15. 30	15. 25	56. 54	56. 34	5002	5027
Sa.	11	15. 20	15. 15	56. 16	55. 58	5050	5073
Sun.	12	15. 10	15. 6	55. 41	55. 24	5095	5118
M.	13	15. 2	14. 58	55. 9	54. 56	5137	5154
Tu.	14	14. 55	14. 52	54. 45	54. 35	5169	5182
W.	15	14. 51	14. 50	54. 28	54. 25	5191	5195
Th.	16	14. 49	14. 49	54. 23	54. 24	5198	5197
F.	17	14. 50	14. 52	54. 27	54. 33	5193	5185
Sa.	18	14. 54	14. 57	54. 42	54. 53	5173	5158
Sun.	19	15. 1	15. 5	55. 7	55. 22	5140	5120
M.	20	15. 10	15. 16	55. 40	56. 0	5097	5071
Tu.	21	15. 21	15. 27	56. 21	56. 42	5044	5017
W.	22	15. 33	15. 39	57. 4	57. 26	4989	4961
Th.	23	15. 45	15. 51	57. 48	58. 10	4933	4906
F.	24	15. 56	16. 1	58. 30	58. 47	4881	4860
Sa.	25	16. 5	16. 9	59. 3	59. 17	4841	4823
Sun.	26	16. 13	16. 15	59. 29	59. 38	4809	4798
M.	27	16. 17	16. 17	59. 44	59. 47	4790	4787
Tu.	28	16. 18	16. 17	59. 48	59. 47	4786	4787
W.	29	16. 17	16. 15	59. 44	59. 38	4790	4798
Th.	30	16. 13	16. 11	59. 31	59. 23	4806	4816
F.	31	16. 8	16. 6	59. 14	59. 4	4827	4839

DISTANCES of MOON's *Center* from SUN, and from STARS *EAST* of her.

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
	1	68. 14. 5	66. 28. 58	64. 43. 49	62. 58. 40	61. 13. 28	59. 28. 15	57. 43. 2	55. 57. 49
α Arietis.	2	54. 12. 35	52. 27. 21	50. 42. 8	48. 56. 56	47. 11. 46	45. 26. 38	43. 41. 32	41. 56. 30
	3	40. 11. 31							
	3	71. 56. 52	70. 12. 40	68. 28. 31	66. 44. 25	65. 0. 22	63. 16. 24	61. 32. 31	59. 48. 44
	4	58. 5. 3	56. 21. 28	54. 38. 1	52. 54. 44	51. 11. 36	49. 28. 38	47. 45. 53	46. 3. 23
Aldebaran	5	44. 21. 8	42. 39. 7	40. 57. 30	39. 16. 15	37. 35. 24	35. 54. 54	34. 15. 1	32. 35. 47
	6	30. 57. 12	29. 19. 28	27. 42. 36	26. 6. 44	24. 31. 55			
	6	- - -	- - -	- - -	- - -	65. 30. 11	63. 45. 56	62. 1. 50	60. 17. 53
	7	58. 34. 6	56. 50. 30	55. 7. 5	53. 23. 51	51. 40. 49	49. 58. 0	48. 15. 24	46. 33. 2
Pollux.	8	44. 50. 54	43. 9. 0	41. 27. 21	39. 45. 58	38. 4. 50			
	8	- - -	- - -	- - -	- - -	74. 51. 9	73. 9. 53	71. 28. 52	69. 48. 7
	9	68. 7. 38	66. 27. 25	64. 47. 27	63. 7. 46	61. 28. 20	59. 49. 11	58. 10. 18	56. 31. 42
	10	54. 53. 23	53. 15. 22	51. 37. 38	50. 0. 12	48. 23. 1	46. 46. 8	45. 9. 32	43. 33. 13
Regulus.	11	41. 57. 12	40. 21. 28	38. 46. 1	37. 10. 51	35. 35. 58	34. 1. 21	32. 27. 1	30. 52. 56
	12	29. 19. 8	27. 45. 35	26. 12. 18	24. 39. 17	23. 6. 31			
	12	- - -	- - -	- - -	- - -	77. 7. 47	75. 35. 18	74. 3. 2	72. 31. 0
	13	70. 59. 12	69. 27. 37	67. 56. 14	66. 25. 4	64. 54. 6	63. 23. 21	61. 52. 47	60. 22. 23
Spica ♍	14	58. 52. 10	57. 22. 7	55. 52. 13	54. 22. 28	52. 52. 51	51. 23. 22	49. 54. 0	48. 24. 44
	15	46. 55. 35	45. 26. 32	43. 57. 33	42. 28. 39	40. 59. 49	39. 31. 3	38. 2. 18	36. 33. 37

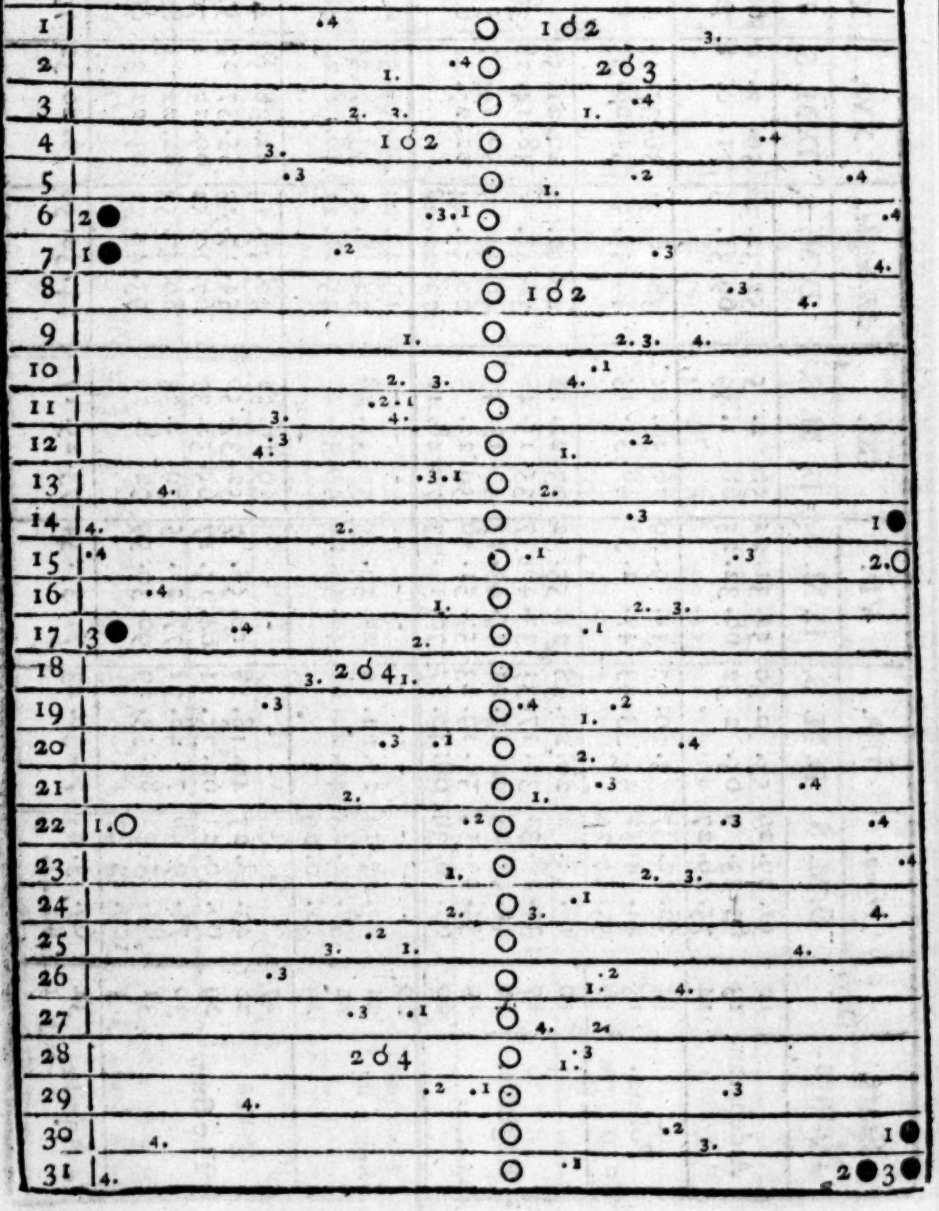
Stars Names.	Days	*Noon.*	IIIh.	VIh.	IXh.	*Midnight.*	XVh.	XVIIIh.	XXIh.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Spica ♍	16	35. 4. 58	33. 36. 20	32. 7. 42	30. 39. 4	29. 10. 27	27. 41. 49	26. 13. 9	24. 44. 27
	17	23. 15. 42							
	13	- - -	- - -	- - -	- - -	- - -	- - -	- - -	120. 55. 12
	14	119. 33. 0	118. 10. 57	116. 49. 2	115. 27. 16	114. 5. 37	112. 44. 6	111. 22. 40	110. 1. 21
	15	108. 40. 8	107. 19. 0	105. 57. 56	104. 36. 56	103. 16. 0	101. 55. 7	100. 34. 15	99. 13. 25
	16	97. 52. 37	96. 31. 50	95. 11. 2	93. 50. 14	92. 29. 25	91. 8. 34	89. 47. 40	88. 26. 43
The Sun.	17	87. 5. 44	85. 44. 40	84. 23. 31	83. 2. 17	81. 40. 57	80. 19. 31	78. 57. 56	77. 36. 15
	18	76. 14. 25	74. 52. 26	73. 30. 18	72. 7. 59	70. 45. 31	69. 22. 52	68. 0. 1	66. 36. 58
	19	65. 13. 43	63. 50. 15	62. 26. 32	61. 2. 36	59. 38. 26	58. 14. 1	56. 49. 21	55. 24. 26
	20	53. 59. 15	52. 33. 48	51. 8. 3	49. 42. 3	48. 15. 46	46. 49. 12	45. 22. 19	43. 55. 10
	21	42. 27. 44	41. 0. 0	39. 31. 58					
	26	100. 14. 28	98. 27. 40	96. 40. 45	94. 53. 43	93. 6. 33	91. 19. 18	89. 31. 59	87. 44. 35
	27	85. 57. 8	84. 9. 38	82. 22. 7	80. 34. 33	78. 46. 59	76. 59. 24	75. 11. 50	73. 24. 18
α Arietis.	28	71. 36. 46	69. 49. 17	68. 1. 51	66. 14. 29	64. 27. 10	62. 39. 56	60. 52. 48	59. 5. 45
	29	57. 18. 49							
	29	88. 59. 50	87. 14. 7	85. 28. 30	83. 43. 0	81. 57. 37	80. 12. 21	78. 27. 14	76. 42. 15
	30	74. 57. 24	73. 12. 42	71. 28. 10	69. 43. 49	67. 59. 37	66. 15. 37	64. 31. 49	62. 48. 14
Aldebaran.	31	61. 4. 51	59. 21. 40	57. 38. 44	55. 56. 3	54. 13. 37	52. 31. 27	50. 49. 35	49. 8. 0
	J. 1	47. 26. 43							

DISTANCES of MOON's *Center* from SUN, and from STARS *WEST* of her.

Stars Names.	Days	*Noon.*	IIIh.	VIh.	IXh.	*Midnight.*	XVh.	XVIIIh.	XXIh.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
The Sun.	1	78. 32. 55	80. 10. 36	81. 48. 20	83. 26. 7	85. 3. 57	86. 41. 49	88. 19. 44	89. 57. 40
	2	91. 35. 39	93. 13. 40	94. 51. 42	96. 29. 46	98. 7. 51	99. 45. 57	101. 24. 3	103. 2. 10
	3	104. 40. 18	106. 18. 27	107. 56. 34	109. 34. 42	111. 12. 49	112. 50. 54	114. 28. 58	116. 7. 0
	4	117. 45. 0	119. 22. 58	121. 0. 54					
Antares.	1	- - -	- - -	- - -	- - -	87. 11. 56	88. 57. 50	90. 43. 45	92. 29. 43
	2	94. 15. 43	96. 1. 45	97. 47. 48	99. 33. 53	101 19. 59	103. 6. 6	104. 52. 15	106. 38. 25
	3	108. 24. 36							
α Aquilæ.	3	60. 13. 40	61. 37. 43	63. 2. 23	64. 27. 38	65. 53. 26	67. 19. 44	68. 46. 28	70. 13. 38
	4	71. 41. 11	73. 9. 4	74. 37. 12	76. 5. 36	77. 34. 14	79. 3. 3	80. 32. 0	82. 1. 4
	5	83. 30. 13							
α Pegasi.	5	35. 42. 23	37. 12. 35	38. 43. 46	40. 15. 49	41. 48. 41	43. 22. 18	44. 56. 31	46. 31. 18
	6	48. 6. 37	49. 42. 16	51. 18. 15	52. 54. 31	54. 31. 5	56. 7. 50	57. 44. 43	59. 21. 42
	7	60. 58. 44							
α Arietis.	7	17. 21. 19	18. 59. 59	20. 39. 5	22. 18. 36	23. 58. 26	25. 38. 33	27. 18. 48	28. 59. 10
	8	30. 39. 38	32. 19. 59	34. 0. 16	35. 40. 28	37. 20. 35	39. 0. 33	40. 40. 20	42. 19. 59
	9	43. 59. 27	45. 38. 44	47. 17. 46	48. 56. 34	50. 35. 9			
Aldebaran.	9	- - -	- - -	- - -	- - -	21. 13. 50	22. 40. 42	24. 8. 33	25. 37. 18
	10	27. 6. 47	28. 37. 0	30. 7. 39	31. 38. 44	33. 10. 15	34. 41. 47	36. 13. 28	37. 45. 15
	11	39. 17. 7	40. 48. 55	42. 20. 41	43. 52. 24	45. 24. 4	46. 55. 36	48. 27. 1	49. 58. 18

Stars Names.	Days	*Noon.*	III^h.	VI^h.	IX^h.	*Midnight.*	XV^h.	XVIII^h.	XXI^h.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
Aldebaran.	12	51. 29. 29	53. 0. 30	54. 31. 22	56. 2. 5	57. 32. 38	59. 3. 0	60. 33. 13	62. 3. 16
	13	63. 33. 9	65. 2. 52	66. 32. 25	68. 1. 49	69. 31. 3	71. 0. 8	72. 29. 2	73. 57. 50
	14	75. 26. 27							
Pollux.	14	32. 10. 37	33. 40. 17	35. 9. 49	36. 39. 15	38. 8. 34	39. 37. 47	41. 6. 54	42. 35. 56
	15	44. 4. 52	45. 33. 43	47. 2. 31	48. 31 15	49. 59. 56	51. 28. 35	52. 57. 12	54. 25. 48
	16	55. 54. 22							
Regulus.	16	18. 58. 4	20. 26. 48	21. 55. 32	23. 24. 18	24. 53. 3	26. 21. 51	27. 50. 41	29. 19. 35
	17	30. 48. 31	32. 17. 31	33. 46. 37	35. 15. 48	36. 45. 5	38. 14. 28	39. 43. 59	41. 13. 38
	18	42. 43. 25	44. 13. 21	45. 43. 27	47. 13. 43	48. 44. 9	50. 14. 47	51. 45. 37	53. 16. 40
	19	54. 47. 55	56. 19. 23	57. 51. 6	59. 23. 3	60. 55. 14	62. 27. 41	64. 0. 24	65. 33. 24
	20	67. 6. 39	68. 40. 12	70. 14. 3	71. 48. 11	73. 22. 38			
Spica ♍	20	- - -	- - -	- - -	- - -	19. 25. 24	20. 59. 50	22. 34. 37	24. 9. 45
	21	25. 45. 14	27. 21. 4	28. 57. 15	30. 33. 48	32. 10. 41	33. 47. 55	35. 25. 30	37. 3. 26
	22	38. 41. 43	40. 20. 21	41. 59. 20	43. 38. 40	45. 18. 21	46. 58. 22	48. 38. 44	50. 19. 26
	23	52. 0. 29							
The Sun.	27	- - -	- - -	- - -	39. 19. 32	40. 59. 14	42. 38. 59	44. 18. 47	45. 58. 36
	28	47. 38. 27	49. 18. 18	50. 58. 7	52. 37. 56	54. 17. 43	55. 57. 27	57. 37. 8	59. 16. 46
	29	60. 56. 21	62. 35. 51	64. 15. 17	65. 54. 37	67. 33. 52	69. 13. 1	70. 52. 3	72. 30. 59
	30	74. 9. 48	75. 48. 31	77. 27. 5	79. 5. 33	80. 43. 53	82. 22. 5	84. 0. 8	85. 38. 4
	31	87. 15. 51	88. 53. 29	90. 30. 59	92. 8. 20	93. 45. 32	95. 22. 34	96. 59. 28	98. 36. 12
	J. 1	100. 12. 47							
α Aquilæ.	31	69. 3. 45	70. 30. 43	71. 57. 54	73. 25. 17	74. 52. 50	76. 20. 32	77. 48. 19	79. 16. 11
	J. 1	80. 44. 7							

CONFIGURATIONS of the SATELLITES of JUPITER at VI. o'Clock in the *Morning*.



EXPLANATION AND USE OF THE ARTICLES CONTAINED IN THE ASTRONOMICAL and NAUTICAL EPHEMERIS.

IT may be proper firſt to premiſe, that all the Calculations of the *Ephemeris* are made according to the apparent Time by the Meridian of the *Royal Obſervatory* at *Greenwich:* And the Sun's, Planet's, and Moon's Places, with the Particulars depending on them in the IId, IVth, Vth, VI, and VIIth Pages of each Month, are computed to the Inſtant of apparent Noon, or that of the Sun's Center paſſing the Meridian of *Greenwich.*

Apparent Time, at any Place, is that deduced immediately from the Sun, whether from the Obſervation of his paſſing the Meridian, from his Altitude obſerved at a Diſtance from the Meridian, or from his obſerved Riſing or Setting. This Time is different from that ſhewn by Clocks and Watches well regulated at Land, which is called equated or mean Time. This will be explained when we come to treat of the Equation of Time.

The Day is here ſuppoſed, according to the Method of Aſtronomers, to begin at Noon, or 12 Hours later than the civil Day of the ſame denomination, and to be counted up to 24 Hours or the ſucceeding Noon, when the next Day begins. Thus the Day of the Month and the Hour of the Day are the ſame in this Method as in the civil Account at Noon, and from Noon till Midnight; but from Midnight till Noon they differ; for whereas in the civil Account a freſh Day is ſuppoſed to begin at Midnight, and the Hours to begin over again, in this Method the Day is ſtill continued beyond Midnight, and the Reckoning of the Hours is continued up to 24. Thus the Diſtances put down to January 10, XV Hours belong to January 11 at Three in the Morning by Civil Reckoning.

There are XII Pages for every Month. The firſt Column of the firſt Page of each Month contains the Day of the Week expreſſed conciſely by the initial Letter or Letters, *Sun.* ſtanding for Sunday, M. for Monday, Tu. for Tueſday, W. for Wedneſday, Th. for Thurſday, F. for Friday, and Sa. for Saturday: the ſecond the Day

of the Month: the third Column exhibits the Sundays and Feſtivals of the Church of England, and other remarkable Days: The laſt Column ſhews at Top the Moon's Phaſes, or the Times of New and full Moon, and of the firſt and laſt Quarter or two Quadratures with the Sun: Beneath are contained miſcellaneous Phænomena, namely, Eclipſes of the Sun and Moon, and Occultations of Planets or fixt Stars not leſs than the fourth Magnitude, by the Moon, as they ſhould happen at *Greenwich* by the Tables; the Conjunctions of the Moon with all Stars not leſs than the fourth Magnitude, which can be Occultations any where on the Globe, between the Latitudes of 60° North and 40° South: The Entrance of the Sun into the ſeveral Signs, and any other remarkable Phænomena.

The Stars are expreſſed by *Bayer*'s Characters of Reference. The Conjunction of the Moon or a Planet with a Star is denoted by prefixing the Character of the Moon or Planet to that of the Star, the Time of the Conjunction being placed immediately before. The Caſe is the ſame with reſpect to the Occultation of a Star or Planet by the Moon, only this is further diſtinguiſhed by the Addition of Im. or Immerſion, to ſignify the Diſappearance behind the Moon; and Em. or Emerſion, to ſignify the Re-appearance of the ſame. Thus $8^d.\ 16^h.\ 22'\ ☽\ ϑ\ ♍$, ſignifies that the Moon will be in Conjunction with the Star ϑ ♍ on the Eighth Day at $16^h.\ 22'$, excluſive of Parallax: And $10^d.9^h.\ 14'$. Im. of ♈ ♊. $10^d.\ 10^h.23'$ Em. ſignifies that the Moon will eclipſe ♈ ♊ on the 10th Day, the Immerſion being at $9^h.\ 14'$. and the Emerſion at $10^h\ 23'$, apparent Time at *Greenwich*.

The Occultations ſet down are thoſe only viſible at *Greenwich*; the Circumſtances of which will commonly not differ very widely in moſt Parts of the kingdom; but in very diſtant Places they will differ very much, owing to the Change of the Moon's Parallax, or it may become no Occultation at all: The like may be ſaid of Eclipſes of the Sun.

An Eclipſe of the Sun, or Occultation of a fixed Star by the Moon, if obſerved in a Place whoſe Latitude and Longitude are well determined, may be applied to the Correction of the Lunar Tables; but if made in a Place whoſe Latitude only is well known, may be applied to the Determination of the Longitude of the Place; but for this Purpoſe an accurate Calculation muſt be made of the Moon's Parallaxes in Longitude and Latitude, which makes this Method of ſettling the Longitudes of Places, though a very accurate one, leſs convenient in Uſe for Perſons not much verſed in aſtronomical Calculations. However, this ought not to diſcourage Travellers or Mariners from endeavouring to make theſe Obſervations as often and as carefully as poſſible, when they ſhall happen to be at any Place whoſe Longitude they have Reaſon to think has not been well ſettled; ſince the neceſſary Calculations may be made at any Time afterwards by themſelves, at Leiſure, or referred to the Skill of Aſtronomers and Mathematicians.

Eclipſes of the Moon are not liable to this Inconvenience; the Longitude of any Place, where the Eclipſe has been obſerved, being deduced immediately by taking the Difference of the Time of the Obſervation and that ſet down in the *Ephemeris*, and converting it into Degrees, at the Rate of 15° to One Hour, *&c.* or more briefly by Table XIV. page 38 of the 2d Edition of the Tables requiſite to be uſed with the *Ephemeris*. But as the Beginning or Ending of an Eclipſe of the Moon cannot be generally obſerved nearer than One Minute, and ſometimes Two or Three Minutes of Time, the Longitudes of Places cannot be certainly determined by this Method from a ſingle Obſervation of the Beginning or End nearer than a Degree. Even this Point of Exactneſs will often be of great Service. If both the Beginning and End of the Eclipſe be obſerved, a greater Degree of Exactneſs will be attained.

The Conjunctions of the Moon with the Planets, or fixt Stars not leſs than the fourth Magnitude, which may prove Occultations in ſome inhabited Parts of the Globe, are evidently deſigned to inſtruct Mariners or Travellers to look out frequently for ſuch Obſervations; which if they happen to prove Occultations, and are carefully obſerved, will afford a certain Means of determining the Longitude of the Place of Obſervation.

The Two firſt Columns of the ſecond Page of the Month contain the Day of the Week and Month as before; next follow the Sun's Longitude, right Aſcenſion in Time, Declination, and the Equation of Time with its Difference from Day to Day.

The Longitude of the Sun is made Uſe of in moſt of the ſucceeding Calculations of the *Ephemeris*, and may ſerve either to verify them or to make other ſimilar Calculations at a different Time of the Day Particularly it may ſerve, with the Help of the Moon's Longitude, to find the Diſtance of the Moon from the Sun at any Time, independent of the Diſtances contained in the VIIIth, IXth, Xth, and XIth Pages of the Month. To find the Sun's Longitude at any Time different from Noon, Proportion muſt be made according to its daily Increaſe: Saying, as 24^h. is to the Hour from Noon reckoned by the Meridian of *Greenwich*, ſo is the daily Variation of the Sun's Longitude, to a fourth Number; which added to the Sun's Longitude at the preceding Noon, gives the true Longitude at the given Time.

If the Time given be that of a Meridian different from *Greenwich*, it muſt be firſt reduced thereto, by adding or ſubſtracting the Difference of Longitude turned into Time (at the Rate of One Hour to 15°. and One Minute of Time to 15 Minutes, or more briefly by Table XIV. Page 38, of the *Requiſite Tables*) according as the Place is to the Weſt or to the Eaſt of *Greenwich*. Example: Suppoſe any one ſhould want to know the Sun's Longitude, January 19, 1767, at 4^h. 35′, being in 21°. 15′ Longitude Eaſt of *Greenwich*. The Difference of Longitude turned into Time is 1^h. 25′, which ſubſtracted from 4^h. 35′ becauſe the Place is Eaſt of *Greenwich*, leaves 3^h. 10′ for the Time re-

duced to the Meridian of *Greenwich*. The Sun's Longitude the preceding Noon is 9ˢ. 29°. 18′.2″, and the following Noon it is 10ˢ. 0°. 19′.4″, the Difference is, 1°. 1′. 2″, or 61′. 2″, the daily Variation. Then ſay, as 24ʰ. is to 3ʰ. 10′, ſo is 61′. 2″, to 8′. 3″, which added to 9ˢ. 29°. 18′. 2″, the Sun's Longitude on the preceding Noon, gives 9ˢ. 29°. 26′. 5″, the Sun's Longitude at the Time given. In like Manner any other of the following Articles is to be found by the Help of the *Ephemeris*.

The Sun's Longitude ſerves alſo to compute the Aberration of the fixt Stars and Planets.

The Sun's right Aſcenſion in Time is uſeful to the practical Aſtronomer in regular Obſervatories, who adjuſts his Clocks by ſidereal Time. It is alſo uſeful to him for converting apparent into ſidereal Time; as ſuppoſe that of an Eclipſe of Jupiter's Satellites, in order to know at what Time it may be expected to happen by his Clocks: For this Purpoſe the Sun's right Aſcenſion at the preceding Noon, together with the increaſe of right Aſcenſion from Noon, muſt be added to the apparent Time of the Phænomenon ſet down in the *Ephemeris*.

The Sun's right Aſcenſion in Times ſerves alſo to compute the apparent Time of a known Star paſſing the Meridian: Thus, ſubſtract the Sun's right Aſcenſion in Time at Noon from the Star's right Aſcenſion in Time, the Remainder is the apparent Time of the Star's paſſing the Meridian nearly; from which the proportional Part of the daily Increaſe of the Sun's right Aſcenſion for this apparent Time from Noon being ſubſtracted, leaves the correct Time of the Star's paſſing the Meridian.

Hence the apparent Time may be found from an obſerved Altitude of a known fixt Star, ſuppoſe one contained in Page 7, of the *Requiſite Tables*; as will be explained hereafter.

The Sun's right Aſcenſion in Time is alſo uſeful for computing the Time of the Moon and Planets paſſing the Meridian, as will be ſhewn under their proper Articles.

The Sun's Declination is neceſſary to find the Latitude, whether at Sea or Land, from the Meridian Altitude obſerved; it is alſo requiſite for finding the Latitude from Two Altitudes obſerved with the Interval of Time meaſured by a Watch; it ſerves for computing the Sun's Azimuth, having his Altitude and the Latitude of the Place given, in order to find the Variation of the Compaſs; it is required, jointly with the Latitude of the Place and the Sun's horary Angle, to compute his Altitude, if neglected to be obſerved at the Time of taking the Moon's Diſtance from the Sun for finding the Longitude, being uſeful to facilitate the Calculation of the Effect of Refraction and Parallax upon the Diſtance; it is alſo neceſſary to calculate the apparent Time from an obſerved Altitude of the Sun at a Diſtance from the Meridian, the Latitude being given; or to compute the Time of the Sun's ſetting or Riſing; which, though a leſs accurate Method than the former of obtaining the Time, may yet be uſeful when that cannot be had. For any of theſe Purpoſes the Sun's Declination muſt

be found to the time given nearly, reduced to the Meridian of *Greenwich*, making Proportion according to the daily Increaſe or Decreaſe, in like Manner as was ſhewn with reſpect to the Sun's Longitude.

The Equation of Time is a Correction, which added to, or ſubſtracted from the apparent Time (according to its Title at the Top of the Column) gives equated or mean Time, or that which ſhould be ſhewn by a good Clock or Watch. Apparent Time is that which takes its Beginning from the Paſſage of the Sun's Center over the Meridian of any Place; and had the Sun no Motion in the Ecliptic, or was his Motion reduced to the Equator or in right Aſcenſion uniform, he would always return to the Meridian after equal Intervals of Time. But his apparent Motion in the Ecliptic being continually varying, and his Motion in right Aſcenſion being rendered further unequal on account of the Obliquity of the Ecliptic to the Equator, from theſe Cauſes it ariſes that the Intervals of his Return to the Meridian become unequal, and the Sun will gradually come too ſlow or too ſoon to the Meridian for an equable Motion, ſuch as that of Clocks and Watches ought to be.

This Retardation or Acceleration of the Sun's coming to the Meridian is called the Equation of Time, and is contained in the laſt Column but One of Page II. and when applied according to its Title to the apparent Time, or that deduced immediately from the Sun, gives the mean or equated Time, whence the Error of a Clock or Watch may be found, and, if required, it may be corrected.

If it be propoſed to convert mean Time into apparent, this is done by a contrary Proceſs, by applying the Equation of Time to the mean Time given, with its Title or Sign changed; *viz.* ſubſtracting inſtead of adding, and adding inſtead of ſubſtracting.

The Equation of Time being ſet down in the *Ephemeris* for Noon at *Greenwich*, Proportion muſt be made according to the daily Difference, to find what it ſhould be at any given Time reduced to the ſame Meridian, as in the preceding Articles. The laſt Column of this Page, containing the daily Differences of the Equation, is deſigned for this Purpoſe.

As often as it may be required to make any Calculations from aſtronomical Tables, and the Time given be apparent Time; it is neceſſary firſt to apply the Equation of Time thereto to convert it into mean Time, the Tables being diſpoſed according to mean Motions. Thus the Articles contained in the *Ephemeris* anſwering to Noon were computed to 0^h. increaſed, or 24 Hours of the preceding Day diminiſhed, by the Equation of Time: And the Moon's places ſet down for Midnight were computed to 12^h. increaſed or diminiſhed by the Equation of time.

What has been ſhewn concerning the Equation of Time chiefly reſpects the Aſtronomer, the Mariner having nothing to do with it in computing his Longitude from the Moon's Diſtances from the Sun and Stars obſerved at Sea with the Help of the *Ephemeris*, all the

Calculations thereof being adapted to apparent Time, the ſame which he will obtain by the Altitudes of the Sun or Stars in the Manner hereafter preſcribed.

But if Time-keepers ſhould be brought into Uſe at Sea, the apparent Time deduced from an Altitude of the Sun muſt be corrected by the Equation of Time, and the mean Time found compared with that ſhewn by the Watch; the Difference will be the Longitude in Time from the Meridian by which the Watch was ſet, as near as the Going of the Watch can be depended upon.

The Equation of Time is computed by taking the Difference of the Sun's true right Aſcenſion and his mean Longitude corrected by the Equation of the Equinoxes in right Aſcenſion, and turning it into Time at the Rate of 1′. to 15′. &c. The Equation of Time will be additive or ſubtractive as the Sun's true right Aſcenſion is greater or leſs than his mean Longitude ſo corrected.

The Time of the Sun's Semidiameter paſſing the Meridian, Page III. ſerves to reduce an Obſervation of a Tranſit of the preceding or ſubſequent Limb over the Meridian to that of the Center, when only One was obſerved. It ſignifies a Portion of apparent Time, or even mean Time, the Difference being abſolutely inſenſible upon ſo ſmall an interval. It is found thus: Increaſe the Sun's Semidiameter in the Ratio of the Co-ſine of his Declination to the Radius, to find his Semidiameter in right Aſcenſion, which turned into Time at the Rate of 1′. to 15′. and 1″ to 15″ gives the Time required. The Sun's Semidiameter in right Aſcenſion is readily found by adding the Log. Co-ſine of his Declination to the logiſtic Logarithm of his Semidiameter, the Sum is the logiſtic Logarithm of his Semidiameter in right Aſcenſion; which divided by 15 gives the Time of his Semidiameter paſſing the Meridian. If the Clock by which the Obſervation is made be regulated according to the ſidereal Time, this Quantity muſt be increaſed in the Ratio of 365 to 366, if great Preciſion is required. From the Time of the Sun's Semidiameter paſſing the Meridian may alſo be found the Time of its paſſing the horizontal or vertical Wire of a Quadrant or Sextant, which on ſome Occaſions may have its Uſe.

The Semidiameter of the Sun, is neceſſary to reduce the obſerved Altitude of his upper or lower Limb to that of the Center; alſo to reduce the obſerved Diſtance of the Moon's neareſt Limb from the Sun's neareſt Limb to the Diſtance of the Centers. It is alſo uſeful to Aſtronomers to verify or aſcertain the exactneſs of the Scale of their Micrometers, by Compariſon with the Meaſure of the Sun's horizontal Diameter. This practice is particularly uſeful in ſolar Eclipſes, when the Diſtance of the Cuſps or the Verſed Sine of the uneclipſed Part has been meaſured with the Micrometer. The Semidiameters of the Sun in *Mayer*'s Tables, on which all the Calculations reſpecting the Sun and Moon are made, ſuppoſe the Semidiameter at the mean Diſtance to be 16′ 2″, 8, which Mr. *Mayer* ſays he deduced from above 130 Obſervations taken with his Six Feet mural Quadrant, which ſeemed to him not ill adapted to the Purpoſe. It may not be amiſs to take this

Opportunity to remark, that the Quadrant here mentioned was given to the *Univerſity* of *Gottingen* by his late Majeſty, and was made by that ingenious Artiſt the late Mr. *John Bird* after the Model of the Eight Feet mural Arch, which he finiſhed for the *Royal Obſervatory* at *Greenwich*, and put up there in the Year 1750. Mr. *Mayer* made his Obſervations with his Six Feet mural Arch, from the Year 1756, to the Time of his Deceaſe; with it he ſettled the mean Obliquity of the Ecliptic to the Beginning of the Year 1756, at 23°. 28′. 16″, which Dr. *Bradley* ſettled by his Obſervations, reduced to the Year 1750, at 23°. 28′. 18″. The Difference is agreeable to what ought to ariſe from the gradual Diminution of the Obliquity of the Ecliptic at the rate of about ½ a Second in a Year. The ſame Inſtrument he alſo uſed in ſettling the Elements of his Solar Tables; and it is moſt probable that with the ſame he ſettled his Table of Refractions at the End of his Solar Tables; the Agreement of this Table with Dr. *Bradley*'s, ſee Page 1ſt of *Requſite Tables* (being both ſuited to the ſame Temperature of the Air) is ſo great, that they ſeem rather like One and the ſame than two different Tables.

The hourly Motion of the Sun is uſeful in computing ſolar and lunar Eclipſes; alſo in correcting the aſſumed Longitude of the ſhip, in order to find the Time from an Obſervation of the Diſtance of the Moon from the Sun, independent of the Diſtances contained in the *Nautical Ephemeris*; See *Britiſh Mariner*'s *Guide*, Page 49, and Table at the End of the ſame, Page 25. The Logarithm of the Sun's Diſtance is uſeful in the Calculation of the Places of the Planets and Comets. The Place of the Moon's Node ſignifies its mean Longitude, and is neceſſary for finding the Equation of the equinoxial Points both in Longitude and right Aſcenſion, the Equation of the Obliquity of the Ecliptic, and the Deviations of the fixed Stars in right Aſcenſion and Declination.

The Eclipſes of Jupiter's Satellites are well known to afford the readieſt, and for general Practice the beſt Method of ſettling the Longitudes of Places at Land; and it is by their Means principally that Geography has been ſo much reformed within a Century paſt, and the Poſition of the moſt diſtant Places determined with equal Accuracy to the neareſt. It was hoped that ſome Means might be found of uſing proper Teleſcopes on Shipboard to obſerve theſe Eclipſes; and could this be effected, it would be of great Service in aſcertaining the Longitude of a Ship from time to time. In my Voyage to *Barbadoes*, under the Directions of the COMMISSIONERS OF LONGITUDE, in 1763 I made a full Trial of the late Mr. *Irwin*'s Marine Chair propoſed for this Purpoſe, but could not derive any advantage from the Uſe of it; and, conſidering the great Power requiſite in a Teleſcope for making theſe Obſervations well, and the Violence as well as Irregularities of the Motion of a Ship, I am afraid the complete Management of a Teleſcope on Shipboard will always remain among the Deſiderata. However, I would not be underſtood to mean to diſcourage any

Attempt founded upon good Principles to get over this Difficulty.

The Teleſcopes proper for obſerving the Eclipſes of Jupiter's Satellites, are common refracting Teleſcopes from 15 to 20 Feet, reflecting Teleſcopes of 18 Inches or 2 Feet focal Length, and Teleſcopes of Mr. *Dollond*'s Conſtruction with two Object Glaſſes from 5 to 10 Feet; or, which are ſtill more convenient, thoſe of 46 Inches focal Length, conſtructed with Three Object Glaſſes, which are as manageable as reflecting Teleſcopes, and perform as much as thoſe which he makes of 10 Feet with Two Object Glaſſes.

The Eclipſes of Jupiter's Satellites are obſerved by Aſtronomers at Land, as well in order to provide Materials for improving the Theories and Tables of their Motions, as for the ſake of compariſon with the correſponding Obſervations which may be made by Perſons in different Parts of the Globe, whereby the Longitude of ſuch Places will be accurately aſcertained. It is indeed to be lamented that Perſons, who viſit diſtant Countries, are not more diligent to multiply Obſervations of this Kind; for want of which, the Obſervations made by Aſtronomers in eſtabliſhed Obſervatories looſe half their Uſe, and the Improvement of Geography is retarded. But it is to be hoped that an Emulation will ſpring up among thoſe who may have Opportunities of rendering ſo uſeful a Service to the Public, to incite them to watch diligently for the Occaſions of obſerving theſe Eclipſes carefully, particularly of the Firſt and Second, which are moſt exact for the purpoſe. The Eclipſes, carefully calculated and ſet down in the *Ephemeris*, will ſerve to advertiſe them and Obſervers in general of the Times when they ſhould attend to theſe Obſervations. The Perſon, who ſhall be under any Meridian different from *Greenwich*, muſt turn his Difference of Longitude into Time: See *Requiſite Tables*, Page 38, and add it to or ſubtract it from the Time of the Eclipſe ſet down in the *Ephemeris*, according as he is to the Eaſt or Weſt of *Greenwich*, to find the apparent Time at which the Eclipſe will happen at his Meridian nearly. He muſt further take care to regulate his Watch or Clock by apparent Time, or at leaſt to know the Difference, as well in order to appriſe him of the Time to look out for the Eclipſe, as for aſcertaining the apparent Time exactly at which he ſhall obſerve it. Equal Altitudes of the Sun or Stars taken with an Aſtronomical Quadrant afford the beſt Means of regulating Clocks and Watches for occaſional Obſervations; or they may be taken with a *Hadley*'s Quadrant, by reflection from a Baſon of Water or Quickſilver, or from the horizon of the Sea, if the Obſerver has an open Proſpect, and is not elevated above 5 or 600 Feet above the Level of the Sea. But, if Opportunity does not admit of taking equal Altitudes, the Time may be determined from One Altitude taken in any of the Methods above-mentioned, at leaſt Two or Three points of the Compaſs diſtant from the Meridian, but the nearer to the Eaſt or Weſt the better, the Latitude of the Place being known, or being found by Obſervations of the Meridian Altitude of the Sun or Stars made

on

on Purpoſe. It will be better to take ſeveral Altitudes in order to take a mean of the Reſults for greater Certainty. And if one Star be obſerved to the Eaſt and the other to the Weſt of the Meridian, the Time will be determined with rather more certainty. The Manner of computing the apparent Time from the Altitude of the Sun or a Star is ſhewn by Problems VIII. and IX. Pages 25 and 26 of the Explanation and Uſe of the *Requiſite Tables*.

The Obſerver, being in a Place whoſe Longitude is well known, ſhould be ſettled at his Teleſcope Three Minutes before the expected Time of an Immerſion of the firſt Satellite; Six or Eight Minutes before that of the ſecond and third Satellites; and a Quarter of an Hour or more before that of the fourth Satellite; chiefly on account of the Uncertainty of their Theories; but if the Longitude of the Place is very uncertain, he muſt begin to look out for the Eclipſe proportionably ſooner: Thus, if the Longitude of the Place is uncertain to 3 Degrees, anſwering to 12 Minutes of Time, he ought to fix himſelf to his Teleſcope 12 Minutes ſooner than is mentioned above. Nevertheleſs, when he has obſerved one Eclipſe of any Satellite, and thereby found the Error of the Tables, he may allow the ſame Correction to the Calculations of the *Ephemeris* for ſeveral Months, which will advertiſe him very nearly of the Time of expecting the Eclipſes of the ſame Satellite, and diſpenſe with his attending ſo long.

The Immerſions ſignify the Inſtant of the Diſappearance of the Satellite by entering into the Shadow of Jupiter; and the Emerſions ſignify the firſt Inſtant of its Appearance at coming out of the ſame. They generally happen when the Satellite is at ſome Diſtance from the Body of Jupiter, except near the Oppoſition of Jupiter to the Sun, when the Satellite approaches nearer to his Body. Before the Oppoſition of Jupiter to the Sun the Immerſions and Emerſions happen on the Weſt Side of Jupiter, and after the Oppoſition on the Eaſt Side; but if an Aſtronomical Teleſcope be uſed, which reverſes Objects, the Appearance will be directly the contrary. Before the Oppoſition, the Immerſions only of the firſt Satellite are viſible; and after the Oppoſition, the Emerſions only. The ſame is generally the Caſe with reſpect to the ſecond Satellite; both the Phænomena of the ſame Eclipſe are frequently obſervable in the two outer Satellites. The Immerſions and Emerſions marked with an Aſteriſk in the *Ephemeris*, are thoſe viſible at *Greenwich*.

To know if an Eclipſe will be viſible in any Place, find whether Jupiter be 8° above the Horizon of the Place, and the Sun as much below it. This may be done near enough by a celeſtial Globe: Other wiſe, the Time of the Sun's Riſing and Setting, may be found for any Latitude by a Table of ſemidiurnal Arcs contained in the popular Book called *The Mariner's Compaſs Rectified*, and many other Books; the Time of Jupiter's Riſing and Setting may alſo be found from the Time of his paſſing the Meridian and Declination ſet

down in the *Ephemeris*, with the Help of the ſame Table of ſemidiurnal Arcs; adding or ſubtracting the ſemidiurnal Arc anſwering to the ſame Declination of the Sun: Remembering always, that if Jupiter's Declination and the Latitude of the Place are of the ſame Denomination, the ſemidiurnal Arc will be more than ſix Hours, and if they are of contrary Denominations, will be leſs than ſix Hours. But it may be eaſier found whether the Eclipſe will be viſible at *Greenwich*, or whether it ſhould be properly marked with an Aſteriſk, By the Tables, Page 28—31, annexed to the *Nautical Almanac* of 1772.

The Immerſion or Emerſion of any Satellite being carefully obſerved in any Place according to apparent Time, the Longitude from *Greenwich* is found immediately by taking the Difference of th Obſervation from the correſponding Time ſhewn in the *Ephemeris* which muſt be turned into Degrees, &c. by *Requiſite Tables*, Page 38; and will be Eaſt or Weſt of *Greenwich*, as the Time obſerved is more than that of the *Ephemeris*.

Example: Suppoſe an Emerſion of the firſt Satellite ſhould be obſerved at the *Cape of Good Hope*, May 9, 1767, at $10^h. 46'. 45''$ apparent Time: The Time by the *Ephemeris* being $9^h. 33' 12''$ the Difference is $1^h. 13'. 33''$, whence the Longitude of the *Cape* ſhould be $18°. 23'. 15''$ Eaſt of *Greenwich*, becauſe the Time ſuppoſed to be obſerved at the *Cape* is more than that of the *Ephemeris*.

It is to be obſerved that a correſpondent Obſervation of an Eclipſe of a Satellite of Jupiter, made under a well-known Meridian, is to be preferred to the Calculations of the *Ephemeris* for comparing with an Obſervation made in a Meridian whoſe Longitude is required; but if no correſponding Obſervation can be obtained, as is frequently the Caſe, it will be beſt to find what correction the Calculations of the *Ephemeris* require by the neareſt Obſervations to the given Time that can be obtained; which correction applied to the Calculation of the given Eclipſe in the *Ephemeris*, renders it almoſt Equivalent to an actual Obſervation.

The Longitudes and Latitudes of the Planets, Page IV. ſerve to know where to look for them in the Heavens, and when theſe Places may be conveniently ſettled by comparing them with fixed Stars by the Help of a Micrometer in a Teleſcope. They alſo ſhew when they are in the moſt important Points of their Orbits where it is moſt material to obſerve them. They alſo ſerve to enable perſons leſs ſkilled to diſtinguiſh them from the fixed Stars. Their Declinations and the apparent Times of their paſſing the Meridian are particularly uſeful to Aſtronomers who are furniſhed with Quadrants and Tranſit Inſtruments well fixed in the Meridian, in ſetting their Inſtruments for obſerving their right Aſcenſions and Declinations.

The apparent Time of a Planet's paſſing the Meridian may be computed thus; the Planet's Right Aſcenſion being calculated from its Longitude and Latitude, and turned into Time, ſubtract the Sun's Right Aſcenſion at Noon in Time from it, to find the Time of the

Planet's paſſing the Meridian nearly, which call T; take the difference of the ☉ and Planet's daily Variation in right Aſcenſion in Time, if the Planet is progreſſive in right aſcenſion, or the Sun, if it is retrograde, which call X; then ſay by the Rule of proportion;

As $14^h \mp X : T :: X : e$ and $T \pm e$ will be correct Time of the Planet's paſſing the Meridian. The upper Signs are to be uſed both to X and e if the Planet's progreſſive Motion in right Aſcenſion be greater than that of the Sun; in any other Caſe the lower Signs are to be made uſe of.

But perhaps it may be found more readily by continual Approximation as follows: Take the proportional Part of the Difference or Sum of the ☉ and Planet's daily Motion in right Aſcenſion, anſwering to the Time of the Planet's paſſing the Meridian, found nearly, in Proportion to 24^h. and take a further like proportional Part of this proportional Part; and again of this laſt, and ſo on as far as is neceſſary. The Sum of all theſe proportional Parts added to the Time of the Planets paſſing the Meridian, found nearly, is the Planet's progreſſive Motion in right Aſcenſion is greater than that of the Sun, otherwiſe ſubtracted, gives the Apparent Time of the Planet's paſſing the Meridian.

Example: Let it be required to find the Time of the Moon's paſſing the Meridian, July 1, 1767?

The Sun's right Aſcenſion in Time July 1ſt, is $6^h\ 40'\ 25''$ and July 2d, is $6^h.\ 44'.\ 33''$ by the *Ephemeris*. Therefore his daily Motion in right Aſcenſion is $4'.\ 8''$. The Moon's right Aſcenſion July 1ſt at Noon by the *Ephemeris* is $159°.\ 2'$ anſwering to $10^h.\ 36'.\ 8''$ of Time, and July 2d is $169°\ 39'$ anſwering to $11^h.\ 18'.\ 36''$. The Difference is $42'.\ 28''$ of Time, from which $4'.\ 8''$ being ſubtracted, leaves $38'.\ 20''$. Subtract $6^h.\ 40'.\ 20''$ the Sun's right Aſcenſion July 1ſt at Noon, from $10^h.\ 36'.\ 8''$ the Moon's right Aſcenſion the ſame Noon, the Remainder $3^h.\ 55'.\ 43''$ is the Approximate Time of the Moon's paſſing the Meridian. The proportional Part of $38'.\ 20''$, anſwering to this, is $6'.\ 17''$, and the proportional Part of $6'.\ 17''$ is $9''$; therefore $6'.\ 17''$ and $9''$ or $6'.\ 26''$ added to $3^h.\ 55'.\ 43''$ give $4^h.\ 2'.\ 9''$, the apparent Time of the Moon's paſſing the Meridian. In the *Ephemeris* it is $4^h.\ 2'$. It may alſo be computed by taking the Difference of the Moon's right Aſcenſion at Noon and Midnight, but then Half the Sun's daily Variation in right Aſcenſion muſt be made uſe of, and Proportion muſt be made for 12 inſtead of 24 Hours: and if the Moon paſſed the Meridian after Midnight, the Sun's right Aſcenſion at Midnight muſt be uſed, which is a Mean between his right Aſcenſions on the preceding and ſubſequent Noon. For the Planets it will be ſufficient to take the firſt proportional Part only.

The Days of the Oppoſitions, Quadratures, &c. of the Planets to the Sun, are Times at which they ought to be obſerved in fixed Obſervatories, for ſettling the Elements of their Orbits by a Series of ſeveral Years Obſervations.

The Vth, VIth, VIIth, VIIIth, IXth, Xth, and XIth Pages of each Month contain the Moon's Place, and all the Circumſtances relating to her Motion and her Diſtances from the Sun and proper Stars, from which her Diſtance ſhould be obſerved for finding the Longitude at Sea. The Longitude, Latitude, and Declination of the Moon, and Time of her paſſing the Meridian, afford the like Uſes with the ſame Circumſtances of the Planetary Motions, and many more beſides. For the ſake of greater Preciſion, the Moon's Longitude, Latitude, Right Aſcenſion, Declination, Semidiameter, Horizontal Parallax, with its proportional Logarithm, are computed Twice a Day to Noon and Midnight, and may readily be inferred to any intermediate Time with the greateſt Exactneſs.

Example: Let it be required to find the Moon's Longitude and Latitude, &c. July 16, 1767, at $16^h. 22'. 16''$.

Firſt find the Longitude.

The Moon's Longitude, July 16, at $12^h.$ is $0^s. 6°. 40'. 25''$ and July 17, at Noon, $0^s. 13°. 47'. 48''$ the Difference $7°. 7'. 23''$ is the Moon's Motion in 12 Hours; ſay then by the Rule of Proportion:

As 12^h is to $4^h. 22'. 16''$ (the exceſs of $16^h. 22'. 16''$ above 12^h) ſo is $7°. 7'. 23''$ to $2°. 35'. 41''$ but this muſt be corrected on account of the Moon's unequal Motion in 12 Hours, by the Table of Equation of ſecond Difference annexed to Mr. *Taylor's Sexageſimal Table*, Page 244—247: For this Purpoſe take out of the *Ephemeris* the two Longitudes of the Moon next preceding the given Time, and the Longitudes immediately following it, and ſet them down in Order one after another, as follows;

		☽'s Long. by the *Ephemeris*	1ſt Diff.	2d Diff.	Mean of 2d Diff.
1767,		° ′ ″	° ′ ″	′ ″	′ ″
July 16,	Noon	11. 29. 29. 34			
	Midnight	0. 6. 40. 25	7. 10. 51	3. 28	
17,	Noon	0. 13. 47. 48	7. 7. 23	3. 44	3. 36
	Midnight	0. 20. 51. 27	7. 3. 39		

Take their Differences $7°. 10'. 51''$, $7°. 7'. 23''$, $7°. 3'. 39''$; take the Differences of theſe Differences, or the ſecond Difference $3'. 28''$, $3'. 44''$; and take their Mean which is $3'. 36''$. Now look for the Equation of ſecond Difference, anſwering to $4^h. 22'$ after Midnight, found on the Side, and $3'. 36''$ at the Top, which will be found $= 24''$, and which, according to the Remark at the Bottom of the Table, muſt be added to $2°. 35'. 41''$, the firſt proportional Part, becauſe the Motion in 12 Hours or firſt Differences are decreaſing, the Sum $2°. 36'. 5''$ added to $0^s. 6°. 40'. 25''$, the Moon's Longitude at Midnight, gives $0^s. 9°. 16'. 30''$, the Moon's true Longitude, and is as correct as the Longitude from which it is reduced

N. B. If the first Differences of the Four Longitudes of the Moon taken out first increase and then decrease, or, *vice versâ*, first decrease and then increase, take Half the Difference of the Two second Differences for the Mean second Difference, with which take out the Equation of second Difference, and add or subtract it as the First first Difference is greater or less than the Third first Difference.

To find the Moon's Latitude.

Take out of the *Ephemeris* the two Latitudes preceding and Two following the given Time, and set them down in Order, and take their first and second Differences, and the Mean of the Two second Differences; find the proportional Part of the Middle first Difference answering to the Hours and Minutes, *&c.* of the given Time after Noon or Midnight; which correct in the following Manner: Entering Table of Equation of second Difference, Page 244—247, with the Hour from Noon or Midnight on the Side, and the Mean second Difference at Top, take out the corresponding Number of Seconds, which added to or subtracted from the proportional Part found above, according as the Motion in 12 Hours or first Difference is decreasing or increasing; or, more generally, according as First first Difference is greater or less than Third first Difference, gives the proportional Part corrected; which now added to, or subtracted from the Moon's Latitude at the preceding Noon or Midnight, as the Latitude in these 12 Hours is increasing or decreasing, gives the Moon's Latitude correct.

Example: The Moon's Latitude is required, July 16, 1767, $16^h.22'.16''$.

		☽'s Lat. by the *Ephemiris*.	1st Diff.	2d Diff.	Mean of 2d Diff.
1767,		° ′ ″	′ ″	′ ″	′ ″
July 16,	Noon	4. 31. 10N.	18. 26		
	Midnight	4. 49. 36		4. 36	4. 40
			13. 50		
17,	Noon	5. 3. 26	9. 6	4. 44	
	Midnight	5. 12. 32			

The Moon's Latitude July 16 at Midnight being $4°.49'.36''$N. and the Motion in the next 12 Hours being $13'.50''$ say by Proportion,

As 12^h is to $4^h.22'.16''$, so is $13'.50''$. to $5'.2''$: but this must be corrected by adding $32''$, the Equation of second Difference, answering to the Hour $4^h.22'$, and the Mean second Difference $4'.40''$, because the first Differences are decreasing, or rather because the first of them $18'.26''$, is greater than the last of them $9.6''$, therefore the proportional Part corrected is $5'.2''+32''=5'.34''$, which added to $4°.49'.36''$, gives $4°.55'.10''$ N. the Moon's Latitude correct.

Remarks on some Circumstances necessary to be attended to, in order to obtain and apply the Correction of second Differences rightly in computing the Moon's Latitude.

I. If the Moon's Latitude taken out of the *Ephemeris* for Noon and Midnight changes its Denomination from North to South or from South to North, the Sum of the Two Latitudes of contrary Denominations, where the Change happens, is to be accounted the firſt Difference in that Place.

II. If the Three firſt Differences firſt increaſe and then decreaſe, or *vice verſâ*, firſt decreaſe and then increaſe, Half the Difference of the Two ſecond Differences is to be taken for the Mean ſecond Difference.

III. If the Series of Four Latitudes taken out ſhould firſt increaſe and then decreaſe about the Moon's greateſt Latitudes, take the Sum of the Two firſt Differences ſtanding on each Side of the greateſt Latitude for the ſecond Difference in that Place; correct the Moon's Latitude at Noon or Midnight by the ſimple proportional Part firſt found; and to the Latitude ſo corrected, add always in this Caſe the Equation of ſecond Difference from Page 244—247, anſwering to the Mean ſecond Differences.

Before I quit this Subject of Interpolation by ſecond Differences, I ſhall point out another Method, by which the ſame End my be obtained more readily, and with fewer Rules, by thoſe who are well acquainted with algebraic Subſtraction and Addition, and the Manner of applying the Signs in thoſe Operations. Subſtract each Latitude from the following for the firſt Differences, to which prefix the Sign — if the Latitudes decreaſe, and ſubſtract each firſt Difference, thus found, from the following one of the ſame Order for the ſecond Differences. Half the Sum of the Two ſecond Differences ſtanding on each Side of the Interval to be interpolated, is to be accounted the Mean ſecond Difference; the Equation correſponding to it by Table, Page 244---247, is to be applied always with the contrary Sign.

Theſe Operations are to be performed, and the Signs to be applied as an algebraic Subſtraction and Addition. Note further, if the four given Latitudes change their Denomination, call the ſecond Latitude +, and thoſe of a contrary Denomination —.

The Moon's Declination may be found at any Hour in the ſame Manner as her Latitude; but as the Correction ariſing from ſecond Differences will never exceed $2'\frac{1}{2}$, this may be neglected on moſt Occaſions; but if any one is deſirous to obtain the Declination true to a Minute, the Correction is eaſily applied, as ſhewn above.

The other Articles of Page VI. and VII. *viz.* the Moon's Right Aſcenſion, her Semidiameter, horizontal Parallax, with its proportional Logarithm, and the Diſtances contained in the four laſt Pages of the Month, may be all found correctly by even Proportion, without requiring any Allowance on Account of ſecond Differences. The proportional Part of the Moon's Longitude, *&c.* for any Hour may be found very readily by the Help of the Table of proportional Logarithms, Page 39—55 of the *Requiſite Tables*.

The Moon's Longitude and Latitude are uſed in computing the Diſtances from the Sun and Stars contained in the four laſt Pages of

the Month, as well as the Appulſes to Stars pointed out in Page and, jointly with her Parallax and Semidiameter, are neceſſary for computing the Eclipſes of the Sun and Moon, and the Occultations of fixt Stars and Planets by the Moon. They alſo facilitate the Calculation of the Longitude of any Place from an obſerved Eclipſe of the Sun, or Occultation of a Star or Planet by the Moon: Or, if the Meridian be well known, the Parallax and Semidiameter ſerve to deduce the Moon's true Place in the Heavens from the Obſervation, which compared with that given by the *Ephemeris* ſhews the Error of the Tables at the Time. The Moons Semidiameter and Parallax are applied in correcting almoſt all Obſervations of the Moon. The proportional Logarithms of the Moon's Parallax ſerve further to facilitate the Calculations of Parallaxes.

The Moon's right Aſcenſion and Declination are uſeful to compute her Altitude at any Time, particularly at the Obſervation of her diſtance from the Sun or a Star, ſuppoſing it was neglected to be or could not be obſerved properly; which latter Caſe may ſometimes happen the Night, though I think but rarely; the utmoſt Accuracy therein in being required for the Calculations of Refraction and Parallax. not *Britiſh Mariner's Guide*, Page 57, and *Requſite Tables*, Page 24. Seee Moon's Declination, with her Semidiameter and Parallax, ſerve Thfinding the Latitude by the Meridian Altitude of her upper and lower Limb obſerved at Sea. See *Britiſh Mariner's Guide*, Page 93, and *Requſite Tables* Page 15. The Moon's right Aſcenſion and Declination ſerve alſo to compute the Time from her Altitude obſerved at the Obſervation of her Diſtance from a Star; whence the Longitude may be inferred, tho' no Altitude of the Sun or a Star was taken for regulating the Time. See *Britiſh Mariner's Guide*, Page 61 and Mr. *Edwards*'s 5th Problem annexed to the *Nautical Almanac* of 1781, Pagh 10.

The Diſtances of the Moon from Sun and fixed Stars, contained in the VIIIth, IXth, Xth and XIth Pages of the Month are ſet down to every Three Hours of apparent Time by the Meridian of *Greenwich*, and are deſigned to relieve the Mariner from the Neceſſity of a Calculation, which he might think prolix and troubleſome, and to enable him, when compared with the Diſtance obſerved carefully at Sea, to infer his Longitude readily and with little Danger of Miſtake to a Degree of Exactneſs that may be thought ſufficient for moſt nautical Purpoſes. But uſeful and valuable as the Practice of this Method may be at preſent, it is not a Remark unworthy our Notice, that every future Improvement of the Lunar Tables, as well as the Inſtruments, will bring it nearer and nearer to Perfection.

The Moon's Diſtances are computed both from the Sun and proper Stars, and generally from One Object on each Side of her, to afford the Mariner a greater Number of Opportunities of Obſervation, and a Means of attaining a greater Degree of Exactneſs. The Diſtances from the Sun are computed between 40° and 120° of Diſtance. While the Moon is between the Diſtances of 20° and 40° from the

Sun, her Diſtance is computed only from a Star on the contrary Side that the Sun is. When ſhe is between the Diſtances of 40° and 90° from the Sun, her Diſtance is computed both from the Sun and from a Star on the contrary Side to the Sun; when the Moon is above 90° from the Sun her Diſtance is computed from Two Stars, one on each Side of her; though ſtill her Diſtance is computed alſo from the Sun from 90° to 120°. Though the Diſtance of the Moon from the Sun or Star, well obſerved with a good Inſtrument, is ſufficient to determine the Longitude, with the help of the *Ephemeris*, always within a Degree, and generally much nearer, yet it will conduce to ſtill greater Accuracy, if the Obſerver takes the Diſtance of the Moon from Two Stars, or the Sun and a Star, or, when the Moon is between 90° and 120°. Diſtant from the Sun, from the Sun and Two Stars, if he can be ſo lucky as to obtain theſe ſeveral Obſervations.

The Longitude being computed from the Obſervations made with each Star reſpectively, the Mean of the Reſults is to be taken as probably approaching neareſt to the true Longitude. In particular the Moon's Diſtance ſhould be taken from Two Stars, or the Sun and a Star on each Side of her, as often as Opportunity permits, ſince the Mean of the Reſults will probably be at leaſt as exact again as either ſeparately, I mean as far as depends on any Imperfection of the Inſtruments, and unavoidable ſmall Errors ariſing in the Uſe of them; Errors of theſe Kinds having a natural Tendency to correct each other; for that ſmall Error which ariſes from the Lunar Tables will affect the Reſult from either Star equally. But the Error of *Mayer*'s laſt Lunar Tables are corrected from a Series of Dr. *Bradley*'s Obſervations of 9 Years by Mr. *Charles Maſon* in 1778, being theſe made uſe of for the *Nautical Almanac* of 1789, and the ſubſequent ones, probably never exceeding 30″, the Uncertainty hence ariſing in the Determination of the Longitude, can ſcarcely ever exceed 17 Miles of Longitude, and generally will be much leſs.

The Diſtances ſet down in the *Ephemeris*, afford the Obſerver a ready Means of knowing the Star from which the Moon's Diſtance is to be obſerved; for he has nothing to do but to ſet his Quadrant to the Diſtance computed roughly from the *Ephemeris*, neglecting the Seconds, at the apparent Time eſtimated nearly by the Meridian of *Greenwich*, and direct his Sight to the Eaſt or Weſt of the Moon, according as the Diſtance at *Greenwich* is found in the VIIIth and IXth, or Xth and XIth Pages of the Month; and having found the Moon upon the little Speculum, let him give a Sweep with the Quadrant to the Right and Left, and he will find the Star he ſeeks for, if above the Horizon and the Air be clear, nearly in a Line perpendicular to the Line of the Moon's Horns or longer Axis, or, which is the ſame Thing, in the Line of the Moon's ſhorter Axis produced. The Star is always one of the brighteſt, ſo that there is little Danger of miſtaking another for it, if the preceding Directions are carefully obſerved. The Time at *Greenwich* is eſtimated nearly by turning the ſuppoſed Longitude from *Greenwich* into Time, by *Requiſite Tables*, Page 83,

and adding it to or ſubſtracting it from the apparent Time at the ſhip, as its Longitude is Weſt or Eaſt of *Greenwich*. It will be ſufficient if the diſtance be computed from the *Ephemeris* within 10′, or 20′, for ſetting the Quadrant. The principal Uſe of the Diſtances of the Moon from the Sun and fixt Stars; namely, in determining the Longitude by compariſon with the correſponding Diſtances obſerved at Sea, is ſhewn in Problem XI. Page 37 of *Requiſite Tables*.

The Diſtances contained in the *Ephemeris* were computed ſtrictly to Noon and Midnight, and thence interpolated for every Three Hours according to the Method ſhewn for computing the Moon's Latitude, Page 157—158; except that the Correction of ſecond Differences at the middle of the Interval to be interpolated, was taken $\frac{1}{8}$ of the Mean of the Two ſecond Differences, and at the Firſt and Third Quarter of the Interval was taken $\frac{3}{4}$ of the Correction juſt found at the Middle of the Interval; inſtead of conſulting Mr. *Taylor*'s Table, Page 248 and 249, which would however have given the ſame Reſult. But, at the firſt 12 Hours, when the Diſtances of the Moon from a Star begin, and the laſt 12 Hours, when the Diſtances end, there being only One ſecond Difference inſtead of Two ſecond Differences on each Side to take a Mean of, this Method fails in theſe Caſes, and therefore the following is to be ſubſtituted in its ſtead, being derived from Sir *Iſaac Newton*'s Solution of the Problem of drawing a Curve through the Extremities of any Number of given Ordinates. *Phil. Nat. Princ. Math.* Page 486 Edit. *Londini* 1726, or Dr. *Horſley*'s complete Edition of Sir *Iſaac Newton's* Works, Vol. 3d. Page 128.

From Four Diſtances at Noon and Midnight computed ſtrictly to interpolate Three Diſtances at the IIId, VIth, and IXth Hour of the firſt or laſt Interval.

Subſtract each Diſtance from the following, for the firſt Difference, and prefix the Sign —, if the Diſtance decreaſe. Subſtract each firſt Difference thus found from the following One of the ſame Order, for the ſecond Differences: And in like Manner ſubſtract the Firſt ſecond Difference from the following for the third Difference; applying the Signs as in algebraic Subſtraction. Denote the firſt or laſt firſt Difference by b; the firſt or laſt ſecond Difference by c, according as the Interpolation to be made is for the firſt or laſt 12 Hours; denote alſo the third Difference by d, and, a being put to ſignify the Diſtance at the Beginning of the Interval, the interpolated Diſtances will be as follows:

At IIId Hour of firſt Interval $a + \frac{1}{4}b - \frac{3}{32}c + \frac{7}{128}d$
At VIth Hour of firſt Interval $a + \frac{1}{2}b - \frac{1}{8}c + \frac{1}{16}d$
At IXth Hour of firſt Interval $a + \frac{3}{4}b - \frac{3}{32}c + \frac{5}{128}d$

Or,

At IIId Hour of laſt Interval $a + \frac{1}{4}b - \frac{3}{32}c - \frac{5}{128}d$
At IVth Hour of laſt Interval $a + \frac{1}{2}b - \frac{1}{8}c - \frac{1}{16}d$
At IXth Hour of laſt Interval $a + \frac{3}{4}b - \frac{3}{32}c - \frac{7}{128}d$

In adapting theſe Formulæ to Numbers, great Care muſt be taken about the right application of the Signs. Thus if b, c, or d is Negative, apply the Number expreſſing the Value of that Term of the Formula where it is found with a contrary Sign to that of the Formula.

Let me add in this Place, that if in filling up the firſt and laſt Intervals, a new ſecond Difference has been ſuppoſed in arithmetical Progreſſion with the Two given ones, in order to take a mean between it and the firſt or laſt ſecond Difference, the Interpolation at the Middle of the Interval or VIth Hour will be had true, the ſame as if the above Formulæ had been uſed: But at the Interpolation of the firſt and third Quarter there will be an Error of $\frac{1}{128}$ third Difference; which will be corrected, by applying $+\frac{1}{128}d$ or third Difference, to Number found at the firſt Quarter of the Interval, and $-\frac{1}{128}d$ to that found at the third Quarter of the Interval; equally the ſame whether it be the firſt or laſt Interval.

The Configurations of Jupiter's Satellites, Page XIIth and laſt, exhibit the apparent Poſitions of the Satellites with reſpect to each other, and to Jupiter at ſuch an Hour of the Evening or Night as they are moſt likely to be obſerved, and ſerve to diſtinguiſh the Satellites from one another. Jupiter is diſtinguiſhed by the Mark ○, and the Satellites by Points with Figures annexed, the Figure 1 ſignifying the the firſt Satellite, 2 the ſecond Satellite, &c. When the Satellite is approaching towards Jupiter, the Figure is put between Jupiter and the Point; and when the Satellite is receding from Jupiter, the Figure is put on the other Side of the Point. The Satellites are in the ſuperior Parts of their Orbits, or furtheſt from the Earth, when they are marked to the right hand or Weſt of Jupiter approaching him; or to the left Hand or Eaſt of Jupiter receding from him; but are in the inferior Part of their Orbits, or neareſt to the Earth, when they are marked to the right Hand or Weſt of Jupiter receding from him, or to the left or Eaſt of Jupiter approaching him. The Cypher ○, ſometimes annexed to the Figure of the Satellite towards the Margin, ſignifies, that it is inviſible on the Face of Jupiter; and the black Mark ● ſignifies that it is inviſible, being eclipſed in Jupiter's Shadow, or, behind Jupiter eclipſed by his body.

THE END.

WORKS

PUBLISHED

BY THE COMMISSIONERS OF LONGITUDE,

AND

SOLD BY P. ELMSLY, IN THE *STRAND*.

I. THE NAUTICAL ALMANACS from 1767 to 1800, inclusive. *In Sheets, Price* 3*s.* 6*d.*

II. TABLES requisite to be used with the NAUTICAL ALMANAC. *1st Edit. Price* 2*s.* 6*d.*—1766.

III. The same. *2d Edit. enlarged and improved. Price* 5*s.* —

IV. PRINCIPLES of Mr. JOHN HARRISON'S WATCH, with PLATES of the same. *Price* 5*s.*—1767.

V. An ACCOUNT of the Going of Mr. JOHN HARRISON'S WATCH at the ROYAL OBSERVATORY. *Price* 2*s.* 6*d.*—1767.

VI. THEORIA LUNÆ JUXTA SYSTEMA NEWTONIANUM, AUCTORE TOBIA MAYER. *Price* 2*s.* 6*d.*—1767.

VII The METHOD of Constructing MURAL QUADRANTS, exemplified by a Description of the BRASS MURAL QUADRANT, in the ROYAL OBSERVATORY at *Greenwich:* To which is added, The METHOD of dividing Astronomical Instruments. By Mr. JOHN BIRD, Mathematical-Instrument-Maker. *Price* 2*s.* 6*d.*—1768.

VIII. TABULÆ MOTUUM SOLIS ET LUNÆ NOVÆ ET CORRECTÆ, AUCTORE TOBIA MAYER: Or NEW AND CORRECT TABLES OF THE MOTIONS OF THE SUN and MOON. By TOBIAS MAYER. *Price* 5*s.* — 1770.

IX. GENERAL TABLES for correcting the Apparent Distance of the Moon and a STAR or the Sun from the Effects of Refraction and Parallax, in 276 Sheets in Folio. *In Sheets, Price* 21*s.* — 1772.

*** *This Book is not perfect without Six Pages of Errata in the Reductions.*

X. ASTRONOMICAL OBSERVATIONS made in a *Voyage* towards the *South Pole* and round the *World* in His MAJESTY's *Ships*, the *Reſolution* and *Adventure*, in 1772, 1773, 1774 and 1775 by WILLIAM WALES, F. R. S. Maſter of the Royal Mathematical School in Chriſt's Hoſpital, and Mr. WILLIAM BAYLY, late Aſſiſtant at the Royal Obſervatory.

Price 21s.—1777.

XI. DESCRIPTION of an Engine for dividing Circles and Arches of Circles on Mathematical Inſtruments, accompanied with Plates. By Mr. J. RAMSDEN, Mathematical-Inſtrument-Maker and Optician. *Price* 5s.—1777.

XII. DESCRIPTION of an Engine for dividing Strait Lines on Mathematical Inſtruments, accompanied with Plates. By Mr. J. RAMSDEN, Mathematical-Inſtrument-Maker and Optician.

Price 5s.—1779.

XIII. A SEXCENTENARY TABLE, exhibiting at Sight the Reſult of any Proportion where the Terms do not exceed 600 Seconds or 10 Minutes. By J. BERNOULLI, Aſtronomer to His *Pruſſian* MAJESTY. *In Sheets*, *Price* 5s.—1779.

XIV. A SEXAGESIMAL TABLE, exhibiting at Sight the Reſult of any Proportion where the Terms do not exceed 60 Minutes; and a MILLESIMAL TABLE of proportional Parts, with other uſeful Tables. By MICHAEL TAYLOR.

In Sheets, *Price* 15s.—1780.

XV. TABLES of the Products and Powers of Numbers. By CHARLES HUTTON, LL. D. and F. R. S. *Price* 7s. 6*d*.—1781.

XVI. ASTRONOMICAL OBSERVATIONS made in a *Voyage* to the *Northern Pacific Ocean* for diſcovering a North Eaſt or North Weſt Paſſage, wherein the North Weſt Coaſt of America and North Eaſt Coaſt of Aſia were explored in His MAJESTY's *Ships* the *Reſolution* and *Diſcovery*, in 1776, 1777, 1778, 1779, and 1780, by Captain JAMES COOK, F. R. S. Lieutenant JAMES KING and Mr. WILLIAM BAYLY. *Price* 21s.—1782

XVII. GENERAL TABLES of the MOON's DISTANCE from the SUN and Ten principal FIXED STARS uſeful for finding the Longitude at Sea or Land.

In Boards, *Price* 5s. 6*d*.—1787.

XVIII. *MAYER's* LUNAR TABLES improved. By Mr. CHARLES MASON. *In Boards*, *Price* 5s. 6*d*.—1787.

XIX. ASTRONOMICAL OBSERVATIONS made in *Voyages* undertaken by ORDER of His preſent MAJESTY for making Diſcoveries in the *ſouthern Hemiſphere* and ſucceſſively performed by Commodore BYRON, Captain WALLIS, Captain CARTERET and Captain COOK, in the *Dolphin*, *Tamer*, *Swallow* and *Endeavour*, in 1764, 1765, 1766, 1767, 1768, 1769, 1770 and 1771, extracted from the Journals of the Commanders and the Papers of Mr. CHARLES GREEN, formerly Aſſiſtant at the Royal Obſervatory, and put in order and computed by WILLIAM WALES, F. R. S. Maſter of the Royal Mathematical School in Chriſt's Hoſpital.

In Sheets, Price 10*s.* 6*d.*—1788.

N. B. To the NAUTICAL ALMANAC of 1769 are annexed, Inſtructions relative to the Obſervation of the Tranſit of Venus over the Sun's Diſk on June 3d, 1769, by the *Aſtronomer Royal.*

To the NAUTICAL ALMANAC of 1771 are added, Tables for finding the Latitude from Two obſerved Altitudes of the Sun, with the Interval of Time, meaſured by a Watch, by Admiral *Campbell*, F. R. S. and new Tables for computing the Eclipſes of Jupiter's Third Satellite, by the late Mr. *Wargentin*, F. R. S.

To the NAUTICAL ALMANAC of 1772 are annexed, Two Methods for clearing the apparent Diſtance of the Moon from the Sun or a fixed Star of the Effect of Refraction and Parallax, by the *Aſtronomer Royal* and the late Mr. *George Witchell*, F. R. S. and the Solution of a Problem in MERCATOR's NAVIGATION, by the late Mr. *Lyons*.

To the NAUTICAL ALMANAC of 1773 is added, A new Table of Equations to equal Altitudes, by Mr. *William Wales*, F. R. S. Alſo, A Catalogue of the Places of 387 fixed Stars in right Aſcenſion, Declination, Longitude and Latitude, adapted to the Year 1760, with their Magnitudes and annual Variations in right Aſcenſion and Declination, calculated from the late Dr. *Bradley's* Obſervations.

To the NAUTICAL ALMANAC of 1774 are added, The Reſult of a Series of 10 Years Lunar Obſervations of Dr. *Bradley*, compared with a Set of manuſcript Tables; Elements of Lunar Tables and Remarks on the *Hadley's* Quadrant, by the *Aſtronomer Royal*; a Problem for finding the Error in the Poſition of a Tranſit Teleſcope, and Two Examples of the Calculation of the Longitude from a Luner Obſervation, *&c.* by the late Mr. *Lyons*.

To the NAUTICAL ALMANAC of 1778 are added, Right Aſcenſions and Zenith Diſtances of the Moon, deduced from Dr. *Bradley's* Obſervations; and Aſtronomical Problems by the late Mr. *Lyons*.

To the NAUTICAL ALMANAC of 1779 are added, New Tables for computing the Eclipſes of Jupiter's ſecond Satellite, by the late Mr. *Wargentin*, F. R. S.

WORKS, &c.

To the NAUTICAL ALMANAC of 1781 are added, Aſtronomical Problems, by the late Rev. *John Edwards*, B. A.

To the NAUTICAL ALMANAC of 1787 is added, A Treatiſe, containing Directions for making the beſt Compoſition for the Metals of Reflecting Teleſcopes, and the Method of caſting, grinding, poliſhing, and giving them the true parabolic Figure; and an Account of the Cauſe and Cure of the Tremors peculiarly affecting Reflecting Teleſcopes more than Refracting ones. By the late Rev. *John Edwards*, B. A. And Remarks on the ſaid Tremors by the *Aſtronomer Royal*.

To the NAUTICAL ALMANAC of 1788 is added, A Deſcription of an accurate and ſimple Method of adjuſting HADLEY's Quadrant for the back Obſervation. By *Robert Blair*, M. D.

To the NAUTICAL ALMANAC of 1791 are added, An Advertiſement of the expected Return of the Comet of 1532 and 1661 in 1788. By the *Aſtronomer Royal*.

An Advertiſement relative to the Diſappearances and Re-appearances of Saturn's Ring in 1789 and 1790. By the *Aſtronomer Royal*.

To the NAUTICAL ALMANACS of 1795, 1796, 1797 and 1798 are added, Tables to improve and render more general, the Method of finding the Latitude from Two obſerved Altitudes of the Sun, with the Time between. By *John Brinkley*, A. M.

To the NAUTICAL ALMANACS from 1795 to 1804, both inclusive, are added, the Eclipſes of Jupiter's Satellites, computed to Mean Time, from M. de *Lambre's* new Tables, annexed to the Third Edition of M. de la *Lande's* Aſtronomy.

WHERE MAY BE HAD,

ASTRONOMICAL OBSERVATIONS

MADE AT

The ROYAL OBSERVATORY at GREENWICH,

By the Rev. NEVIL MASKELYNE, D. D. F. R. S.

And ASTRONOMER ROYAL,

In FOLIO.

VOL. I. from 1765 to 1774.

With TABLES

For Computing

The APPARENT PLACES of the FIXT STARS

And Reducing

OBSERVATIONS of the PLANETS,

By the SAME.

Price 25s. in Sheets.

VOL. II. from 1775 to 1786.

Price 30s. in Sheets.

Alſo, the OBSERVATIONS

Made in the YEARS 1787, 1788 and 1789.

Price 2s. 6d. for each Year, in Sheets.

PUBLISHED

By the PRESIDENT and COUNCIL of the ROYAL SOCIETY,

in OBEDIENCE to His MAJESTY's COMMAND.

20th *February*, 1793.

This Day are publiſhed,

TABLES

OF

LOGARITHMS OF NUMBERS FROM 1 TO 101000,

AND OF THE SINES AND TANGENTS TO EVERY SECOND OF THE QUADRANT,

BY MICHAEL TAYLOR,

(AUTHOR OF THE SEXAGESIMAL TABLE,)

WITH PRECEPTS FOR THE USE OF THE SAME,

BY NEVIL MASKELYNE, F.R.S. ASTRONOMER ROYAL.

Price Three Guineas in Sheets to the Subscribers. Price Four Guineas in Sheets to Non-Subscribers.

LONDON:

SOLD AND DELIVERED BY

FRANCIS WINGRAVE,

BOOKSELLER IN THE *STRAND*;

Where Subſcribers to this Work, who have not received their Book, are deſired to pay forthwith the Second Half of their Subſcription Money and take up their Books.

This Day are publiſhed,

MARGETT's *LONGITUDE TABLES,*

For Correcting the *Effect* of *Parallax* and *Refraction* on the *Diſtance* obſerved between the *Moon* and the *Sun* or a fixed *Star*, whereby the true Diſtance is eaſily and accurately obtained, and the Longitude from *Greenwich* found by Inſpection; together with *Horary Tables* by the ſame Author, for ſhewing the apparent Time by Inſpection, and alſo the Latitude of a Ship, and the Azimuth r Altitude of any celeſtial Object.

LONDON:

PRINTED FOR, AND SOLD BY THE AUTHOR,

N°. 21, King Street, Cheapside, or at the Jeruſalem Coffee-Houſe, Cornhill.

The Price of the whole Work bound together is Five Guineas; or either of the Two Parts may be had ſeparately, at Three Guineas.

ECLIPSES

OF THE

SATELLITES OF JUPITER,

FROM

M. DE LAMBRE's TABLES,

FOR THE *YEAR*

1802,

MEAN TIME.

JANUARY.

I. Satellite. *Immersions.*		II. Satellite. *Immersions.*		III. Satellite.		IV. Satellite.	
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.
* 2	14. 1.14	2	2. 2. 3	* 6	11.53.59 Im.	* 8	18. 0.35 Im.
4	8.29.38	* 5	15.19.18	* 6	15.21.37 E.	8	22.42.19 E.
6	2.57.58	9	4.36.23	*13	15.51.53 Im.	*25	11.58.15 Im.
7	21.26.22	*12	17.53.49	13	19.19. 6 E.	*25	16.38.27 E.
* 9	15.54.43	16	7.10.58	20	19.50.46 Im.		
*11	10.23. 7	19	20.28.34	20	23.17.31 E.		
13	4.51.28	*23	9.45.47	27	23.48.55 Im.		
14	23.19.53	26	23. 3.33	28	3.15.10 E.		
*16	17.48.14	*30	12.20.54				
*18	12.16.39						
20	6.45. 1						
22	1.13.28						
23	19.41.50						
*25	14.10.16						
*27	8.38.39						
29	3. 7. 6						
30	21.35.30						

FEBRUARY.

I. Satellite. *Immersions.*		II. Satellite. *Immersions.*		III. Satellite.		IV. Satellite.	
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.
* 1	16. 3.57	3	1.38.48	4	3.47.12 Im.	11	5.56.43 Im.
* 3	10.32.21	* 6	14.56.15	* 4	7.13. 1 E.	*11	10.35. 6 E.
5	5. 0.49	10	4.14.19	*11	7.45. 4 Im.	27	23.55.54 Im.
6	23.29.14	*13	17.31.52	*11	11.10.24 E.	28	4.32.12 E.
* 8	17.57.43	*17	6.50. 7	*18	11.43. 3 Im.		
*10	12.26. 8	*Emersions.*		*18	15. 7.54 E.		
*12	6.54.38	20	23. 0. 7	*25	15.41.35 Im.		
14	1.23. 4	*24	12.18.34	25	19. 5.55 E.		
15	19.51.35	28	1.36.17				
*17	14.20. 3						
*19	8.48.34						
	Emersions.						
21	5.31.47						
23	0. 0.18						
24	18.28.45						
*26	12.57.16						
*28	7.25.44						

MARCH.

I. Satellite. *Emersions.*		II. Satellite. *Emersions.*		III. Satellite.			IV. Satellite.		
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.		Days.	H. M. S.	
2	1.54.16	* 3	14.54.55	4	19.40.15	Im.	16	17.55.33	Im.
3	20.22.44	7	4.12.42	4	23. 4. 5	E.	16	22.29.32	E.
* 5	14.51.18	10	17.31.27	11	23.39.49	Im.			
* 7	9.19.47	*14	6.49.20	12	3. 3. 6	E.			
9	3.48.21	17	20. 8.13	19	3.38.41	Im.			
10	22.16.50	*21	9.26. 9	*19	7. 1.27	E.			
*12	16.45.25	24	22.45. 8	*26	7.37.40	Im.			
*14	11.13.56	*28	12. 3. 9	*26	10.59.52	E.			
16	5.42.31								
18	0.11. 2								
19	18.39.38								
*21	13. 8.10								
*23	7.36.46								
25	2. 5.19								
26	20.33.56								
*28	15. 2.30								
*30	9.31. 7								

APRIL.

I. Satellite. *Emersions.*		II. Satellite. *Emersions.*		III. Satellite.			IV. Satellite.		
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.		Days.	H. M. S.	
1	3.59.41	1	1.22.15	* 2	11.36.15	Im.	* 2	11.55.56	Im.
2	22.28.18	* 4	14.40.18	* 2	14.57.56	E.	2	16.27.27	E.
4	16.56.53	8	3.59.29	9	15.34.57	Im.	19	5.56.51	Im.
* 6	11.25.32	11	17.17.34	9	18.56. 3	E.	*19	10.25.27	E.
8	5.54. 7	15	6.36.50	16	19.34.10	Im.			
10	0.22.46	18	19.54.55	16	22.54.39	E.			
11	18.51.22	*22	9.14.13	23	23.33.26	Im.			
*13	13.20. 1	25	22.32.22	24	2.53.19	E.			
*15	7.48.38	*29	11.51.40						
17	2.17.16								
18	20.45.54								
20	15.14.33								
*22	9.43.11								
24	4.11.50								
25	22.40.28								
27	17. 9. 7								
*29	11.37.47								

MAY.

I. Satellite. *Emersions.*		II. Satellite. *Emersions.*		III. Satellite.		
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.	
1	6. 6.26	3	1. 9.49	1	3.33.31	Im.
3	0.35. 5	6	14.29. 9	1	6.52.48	E.
4	19. 3.45	10	3.47.18	8	7.32.49	Im.
6	13.32.24	13	17. 6.33	* 8	10.51.34	E.
8	8. 1. 4	17	6.24.44	*15	11.32. 8	Im.
10	2.29.44	20	19.44. 0	15	14.50.13	E.
11	20.58.23	*24	9. 2. 8	22	15.31. 0	Im.
13	15.27. 3	27	22.21.21	22	18.48.29	E.
*15	9.55.42	*31	11.39.26	29	19.29.54	Im.
17	4.24.22			29	22.46.42	E.
18	22.53. 2					
20	17.21.43			IV. Satellite.		
*22	11.50.22					
24	6.19. 4			5	23.57.46	Im.
26	0.47.42			6	4.23.22	E.
27	19.16.24			22	17.59. 3	Im.
29	13.45. 3			22	22.21.21	E.
31	8.13.44					

JUNE.

I. Satellite. *Emersions.*		II. Satellite. *Emersions.*		III. Satellite.		
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.	
2	2.42.22	4	0.58.35	5	23.29.19	Im.
3	21.11. 4	7	14.16.39	6	2.45.25	E.
5	15.39.42	11	3.35.44	13	3.28.36	Im.
* 7	10. 8.24	14	16.53.46	13	6.44. 6	E.
9	4.37. 2	18	6.12.42	20	7.28.41	Im.
10	23. 5.44	21	19.30.43	20	10.43.35	E.
12	17.34.22	25	8.49.34	27	11.27.54	Im.
14	12. 3. 3	28	22. 7.29	27	14.42. 6	E.
16	6.31.42					
18	1. 0.23					
19	19.29. 2			IV Satellite.		
21	13.57.42					
23	8.26.20			8	12. 0.15	Im.
25	2.55. 1			8	16.18.56	E.
26	21.23.38			25	6. 1. 7	Im.
28	15.52.19			25	10.15.57	E.
30	10.20.56					

JULY.

I. Satellite. *Emersions.*		II. Satellite. *Emersions.*		III Satellite.	
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.
2	4.49.37	2	11.26.14	4	15.27. 2 Im.
3	23.18.14	6	0.44. 6	4	18.40.35 E.
5	17.46.55	9	14. 2.43	11	19.25.45 Im.
7	12.15.31	13	3.20.31	11	22.38.34 E.
9	6.44.12	16	16.38.59	18	23.24.25 Im.
11	1.12.48	20	5.56.43	19	2.36.31 E.
12	19.41.28	23	19.15. 0	26	3.23.36 Im.
14	14.10. 5	27	8.32.42	26	6.35. 0 E.
16	8.38.45	30	21.50.51		
18	3. 7.21				
19	21.36. 1			IV. Satellite.	
21	16. 4.37				
23	10.33.16			12	0. 1.57 Im.
25	5. 1.51			12	4.12.47 E.
26	23.30.30			28	18. 2.25 Im.
28	17.59. 4			28	22. 8.50 E.
30	12.27.43				

AUGUST.

I. Satellite. *Emersions.*		II. Satellite. *Emersions.*		III. Satellite.	
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.
1	6.56.18	3	11. 8.26	2	7.22.38 Im.
3	1.24.56	7	0.26.28	2	10.33.16 E.
4	19.53.30	10	13.43.57	9	11.22.21 Im.
6	14.22. 8			9	14.32.16 E.
8	8.50.42				
10	3.19.20				
				IV. Satellite.	

SEPTEMBER.

The ECLIPSES of JUPITER's SATELLITES

are *not visible* this Month,

JUPITER being *too near* the SUN.

OCTOBER.

I. Satellite.		II. Satellite.		III. Satellite.	
Immersions.		*Immersions.*			
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.
9	5.16. 1	9	20.51.59	12	23. 9.33 Im.
10	23.44.26	13	10. 8.54	13	2.12.32 E.
12	18.12.58	16	23.25.43	20	3. 7.22 Im.
14	12.41.23	20	12.42.32	20	6. 9.29 E.
16	7. 9.54	24	1.59.19	27	7. 5. 9 Im.
18	1.38.18	27	15.16. 3	27	10. 6.27 E.
19	20. 6.49	31	4.32.43		
21	14.35.14				
23	9. 3.44				
25	3.32. 8				
26	22. 0.39				
* 28	16.29. 2			IV. Satellite.	
30	10.57.31			20	11.58.12 Im.
				20	15.38.48 E.

NOVEMBER.

I. Satellite. *Immersions.*		II. Satellite. *Immersions.*		III. Satellite.		IV. Satellite.	
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.		
1	5.25.54	* 3	17.49.22	3	11. 3.27 Im.	6	5.56. 7 Im.
2	23.54.24	7	7. 5.57	3	14. 3.54 E.	6	9.30.25 E.
4	18.22.45	10	20.22.34	10	15. 1.32 Im.	22	23.53.32 Im.
6	12.51.15	14	9.39. 4	* 10	18. 1.11 E.	23	3.21.34 E.
8	7.19.36	17	22.55.37	17	19. 0.18 Im.		
10	1.48. 6	21	12.12. 7	17	21.59. 7 E.		
11	20.16.27	25	1.28.35	24	22.58.11 Im.		
13	14.44.56	* 28	14.45. 2	25	1.56. 9 E.		
15	9.13.16						
17	3.41.45						
18	22.10. 5						
* 20	16.38.33						
22	11. 6.53						
24	5.35.22						
26	0. 3.41						
* 27	18.32. 9						
29	13. 0.27						

DECEMBER.

I. Satellite. *Immersions.*		II. Satellite. *Immersions.*		III. Satellite.		IV. Satellite.	
Days.	H. M. S.	Days.	H. M. S.	Days.	H. M. S.		
1	7.28.55	2	4. 1.28	2	2.55.57 Im.	* 9	17.51.15 Im.
3	1.57.14	* 5	17.17.54	2	5.53. 1 E.	9	21.12.34 E.
4	20.25.42	9	6.34.18	9	6.53.19 Im.	26	11.48.40 Im.
* 6	14.54. 0	12	19.50.43	9	9.49.32 E.	* 26	15. 2.42 E.
8	9.22.28	16	9. 7. 7	16	10.50.47 Im.		
10	3.50.45	19	22.23.32	* 16	13.46. 5 E.		
11	22.19.13	23	11.39.54	* 23	14.48.49 Im.		
* 13	16.47.30	27	0.56.22	* 23	17.43.12 E.		
15	11.15.57	* 30	14.12.45	* 30	18.46.40 Im.		
17	5.44.14			30	21.40.11 E.		
19	0.12.41						
* 20	18.40.59						
* 22	13. 9.25						
24	7.37.44						
26	2. 6.11						
27	20.34.27						
* 29	15. 2.53						
31	9.31.11						